PRIMARY 3

DISCOVER

Teacher's Guide
2020/2021

Term 1

FOREWORD

This is a pivotal time in the history of the Ministry of Education and Technical Education (MOETE) in Egypt. We are embarking on the transformation of Egypt's K-12 education system starting in September 2018 with KG1, KG2 and Primary 1 continuing to be rolled out year after year until 2030. We are transforming the way in which students learn to prepare Egypt's youth to succeed in a future world that we cannot entirely imagine.

MOETE is very proud to present this new series of textbooks, Discover, with the accompanying digital learning materials that captures its vision of the transformation journey. This is the result of much consultation, much thought and a lot of work. We have drawn on the best expertise and experience from national and international organizations and education professionals to support us in translating our vision into an innovative national curriculum framework and exciting and inspiring print and digital learning materials.

The MOETE extends its deep appreciation to its own "Center for Curriculum and Instructional Materials Development" (CCIMD) and specifically, the CCIMD Director and her amazing team. MOETE is also very grateful to the minister's senior advisors and to our partners including "Discovery Education," "Nahdet Masr," "Longman Egypt," UNICEF, UNESCO, and WB, who, collectively, supported the development of Egypt's national curriculum framework. I also thank the Egyptian Faculty of Education professors who participated in reviewing the national curriculum framework. Finally, I thank each and every MOETE administrator in all MOETE sectors as well as the MOETE subject counselors who participated in the process.

This transformation of Egypt's education system would not have been possible without the significant support of Egypt's current president, His Excellency President Abdel Fattah el-Sisi. Overhauling the education system is part of the president's vision of 'rebuilding the Egyptian citizen' and it is closely coordinated with the ministries of higher education & scientific research, Culture, and Youth & Sports. Education 2.0 is only a part in a bigger national effort to propel Egypt to the ranks of developed countries and to ensure a great future to all of its citizens.

WORDS FROM THE MINISTER OF EDUCATION & TECHNICAL EDUCATION

It is my great pleasure to celebrate this extraordinary moment in the history of Egypt where we launch a new education system designed to prepare a new Egyptian citizen proud of his Egyptian, Arab and African roots - a new citizen who is innovative, a critical thinker, able to understand and accept differences, competent in knowledge and life skills, able to learn for life and able to compete globally.

Egypt chose to invest in its new generations through building a transformative and modern education system consistent with international quality benchmarks. The new education system is designed to help our children and grandchildren enjoy a better future and to propel Egypt to the ranks of advanced countries in the near future.

The fulfillment of the Egyptian dream of transformation is indeed a joint responsibility among all of us; governmental institutions, parents, civil society, private sector and media. Here, I would like to acknowledge the critical role of our beloved teachers who are the role models for our children and who are the cornerstone of the intended transformation.

I ask everyone of us to join hands towards this noble goal of transforming Egypt through education in order to restore Egyptian excellence, leadership and great civilization.

My warmest regards to our children who will begin this journey and my deepest respect and gratitude to our great teachers.

Dr. Tarek Galal Shawki
Minister of Education & Technical Education

Contents

How to Use This Guide



The teaching guide is designed to provide instructors with a clear path to follow to implement multidisciplinary instruction that creates engaging, relevant, and rigorous learning experiences for students. If instructors have not used such a guide before, some practical advice follows:

- Read each chapter carefully. Make notes and highlight important details.
- Read and annotate the teacher guide and student book side-by-side.
- Take note of the following:
    - What are the pupils discovering or learning? (Content)
    - What are the students being asked to do? (Activity)
    - What is the teacher discovering about the pupils? (Assessment)
    - How could you adapt the lesson for the different abilities in your class? (Differentiation)
- Gather the necessary materials and make any preparations before implementing the lessons. Materials and preparation are highlighted in boxes at the beginning of each lesson. Consider additional classroom management techniques necessary for your particular class and learning environment.
- During and after implementing each lesson, reflect and make notes on what was successful as well as possible suggestions for improvement.
- Planning with another teacher can often lead to greater implementation success as it provides an opportunity to discuss classroom expectations and management procedures, and it ensures that lessons are differentiated to better suit the needs of students. It is suggested that teachers meet with other instructors at or near their grade level at least weekly to plan and reflect.

As outlined in the **Background**, the school year is divided into four themes. Within the multidisciplinary window, content from various disciplines is integrated into each chapter. In one lesson, students may practice and apply skills in mathematics, social studies, science, and the arts. Each theme includes chapters that coincide with project titles or topics. Projects are used as a means of formative assessment and allow students to demonstrate skills and knowledge across different content domains.

Multidisciplinary chapters are organized into three components:



Discover

- The beginning of each chapter introduces the thematic project to students. Discover allows students to explore what they already know related to the project, create some questions about what they wonder or want to learn, and discover content through observation, questioning, and discussion.



Learn

- Content across disciplines is integrated in the Learn portion of the chapter, with a specific focus on preparing for the project. Students practice and apply skills to build and demonstrate understanding.



Share

- At the close of each chapter, students share projects, reflect on the learning process, and provide feedback to classmates.

Background

Building off the success of the initial year of Education 2.0 implementation, these instructional materials support the production of engaging and rigorous learning experiences for students and teachers. The materials are grounded in the philosophy of the Curriculum Framework Second and Third Primary Grades 2019-2030, which aims to develop students with necessary skills for life and work in the 21st century. Four broad themes provide infrastructure for the multidisciplinary curricula.

Term 1:
- Theme 1: Who Am I? - Living Healthy
- Theme 2: The World Around Me - Taking Care of Our World

Term 2:
- Theme 3: How the World Works - Origins
- Theme 4: Communication - Connections

Each theme is organized by chapters, with three chapters in each theme. Every chapter begins with an Overview, Learning Indicators, and Pacing Guide. It is strongly suggested that instructors thoroughly read each of these sections because they provide beneficial information about the implementation and purpose of each project.

- The **Overview** provides a description of each component of the chapter as well as the total number of days for implementation.
- The **Learning Indicators** describe what pupils should know or be able to do.
- The **Pacing Guide** shows when each lesson of the chapter will be implemented. It also provides a description of each lesson.

Each theme involves the integration of subjects and includes projects as a means of formative assessment. Projects integrate topics and concepts of the different fields of study through a number of issues and challenges in order to develop a range of knowledge and skills. The project includes a number of individual and group learning experiences that are fully linked to the theme and its goals.

This instructional guide is intended to support teachers in the preparation and implementation of projects by providing step-by-step instructions embedded with teacher input, instructional strategies, and classroom management techniques.



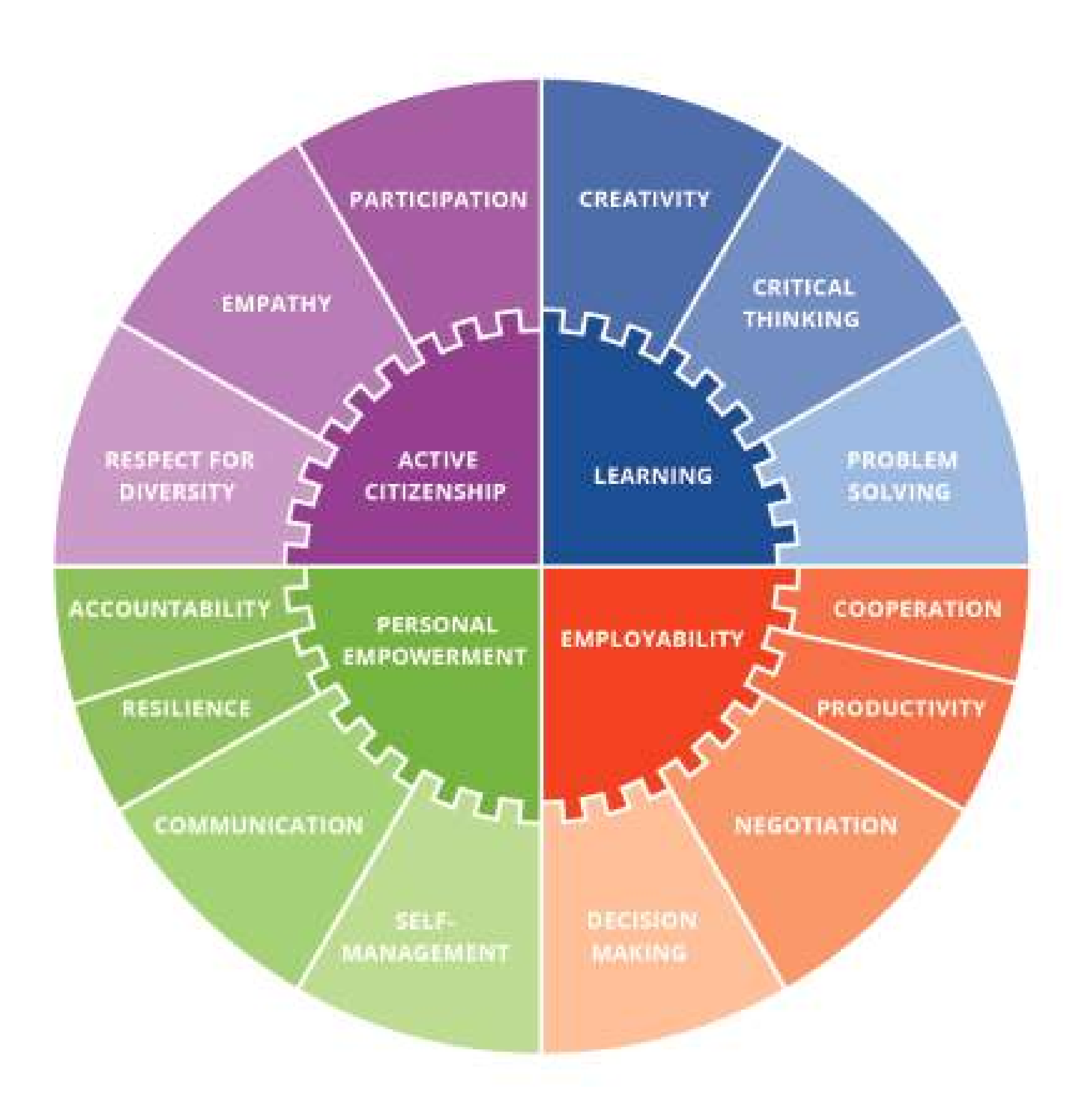
Life Skills

What is the purpose of the life skills?
The Center for Curriculum and Instructional Materials Development at the Ministry of Education has developed important life skills that will guide the development of each child into a creative and innovative citizen. The life skills support the development of citizens who will continue to teach and learn, coexist in harmony with others, and adhere to his/her values. The life skills emphasize becoming an effective leader and positive follower who is proud of his/her country and heritage, who has a competitive spirit and faith in work values, and who is a promoter of the principles of entrepreneurship.

What are the life skills?
The 14 life skills (shown in the diagram below) are based on the Life Skills and Citizenship Education initiative in the Middle East and North Africa (LSCE-MENA), led by UNICEF in collaboration with partners across the region.

The life skills are classified into four learning dimensions:

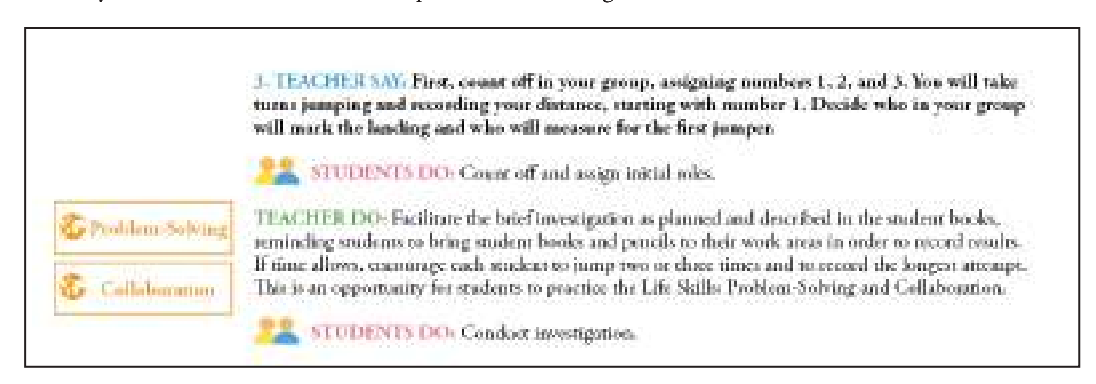
- **Learn to Know:** Learning skills (critical thinking, creative thinking, problem solving)
- **Learn to Do:** Employability skills (cooperation, decision-making, negotiation, productivity)
- **Learn to Be:** Personal empowerment skills (self-management, accountability, communication, resilience)
- **Learn to Live Together:** Active citizenship skills (participation, empathy, respect for diversity)



How are life skills visible in the classroom and instruction?

These skills have already been integrated into the Education 2.0 framework and curriculum at the KG1, KG2, Primary 1, and Primary 2 levels. Life skills are incorporated into the multidisciplinary curriculum alongside the academic learning indicators of math, science, reading, arts, and so on.

In Primary 3, students encounter and reflect on their use of the life skills more explicitly, taking more ownership and responsibility for practicing and developing the skills. As in the previous year, the Primary 3 multidisciplinary curriculum (Discover) calls out specific opportunities for students to practice life skills, indicated by notes to the teachers in the provided teacher guides.


3. TEACHER SAY: **First, count off in your group, assigning numbers 1, 2, and 3. You will take turns jumping and recording your distance, starting with number 1. Decide who in your group will mark the landing and who will measure for the first jumper.**

STUDENTS DO: Count off and assign initial roles.

Problem-Solving

Collaboration

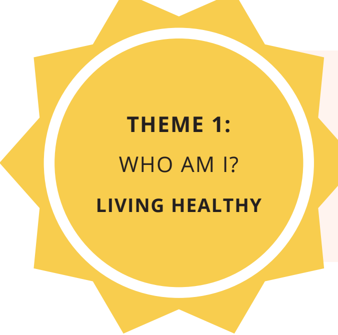
TEACHER DO: Facilitate the brief investigation as planned and described in the student books, reminding students to bring student books and pencils to their work areas in order to record results. If time allows, encourage each student to jump two or three times and to record the longest attempt. This is an opportunity for students to practice the Life Skills Problem-Solving and Collaboration.

STUDENTS DO: Conduct investigation.

Each chapter culminates with a Share project that allows students to not only apply life skills but also to reflect and self-assess how well they are meeting the expectations of relevant skills.

Life Skills	Gives feedback that is general.	Gives feedback that is specific and relevant to the work.	Gives thoughtful feedback that is specific and relevant to the work and may offer a unique perspective.
	Listens to and respects others' opinions when frequently reminded, or talks over others to state own opinions.	Listens to and considers others' opinions in classroom discussions.	Listens to, considers, and voluntarily asks for others' opinions in classroom discussions.

Primary 3 First Term Pacing Calendar



- Making a Stronger Me — Days 1-10
- Making a Healthy Body — Days 11-20
- Get Fit With Healthy Eating — Days 21-30

THEME 2:
THE WORLD AROUND ME
TAKING CARE OF OUR WORLD

- When Habitats Change — Days 31-40
- Water, Water Everywhere — Days 41-50
- How Can I Help? — Days 51-60

Primary 3 Pacing Guide

	WEEK	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
LIVING HEALTHY	1	DISCOVER Making A Stronger Me	DISCOVER Making A Stronger Me	DISCOVER Making A Stronger Me	LEARN Making A Stronger Me	LEARN Making A Stronger Me
	2	LEARN Making A Stronger Me	LEARN Making A Stronger Me	SHARE Making A Stronger Me	SHARE Making A Stronger Me	SHARE Making A Stronger Me
	3	DISCOVER Healthy Body	DISCOVER Healthy Body	LEARN Healthy Body	LEARN Healthy Body	LEARN Healthy Body
	4	LEARN Healthy Body	LEARN Healthy Body	LEARN Healthy Body	SHARE Healthy Body	SHARE Healthy Body
	5	DISCOVER Get Fit With Healthy Eating	DISCOVER Get Fit With Healthy Eating	LEARN Get Fit With Healthy Eating	LEARN Get Fit With Healthy Eating	LEARN Get Fit With Healthy Eating
	6	LEARN Get Fit With Healthy Eating	LEARN Get Fit With Healthy Eating	LEARN Get Fit With Healthy Eating	SHARE Get Fit With Healthy Eating	SHARE Get Fit With Healthy Eating
TAKING CARE OF OUR WORLD	7	DISCOVER When Habitats Change	DISCOVER When Habitats Change	DISCOVER When Habitats Change	LEARN When Habitats Change	LEARN When Habitats Change
	8	LEARN When Habitats Change	LEARN When Habitats Change	LEARN When Habitats Change	SHARE When Habitats Change	SHARE When Habitats Change
	9	DISCOVER Water, Water Everywhere	DISCOVER Water, Water Everywhere	DISCOVER Water, Water Everywhere	LEARN Water, Water Everywhere	LEARN Water, Water Everywhere
	10	LEARN Water, Water Everywhere	LEARN Water, Water Everywhere	SHARE Water, Water Everywhere	SHARE Water, Water Everywhere	SHARE Water, Water Everywhere
	11	DISCOVER How Can I Help?	DISCOVER How Can I Help?	DISCOVER How Can I Help?	LEARN How Can I Help?	LEARN How Can I Help?
	12	LEARN How Can I Help?	LEARN How Can I Help?	SHARE How Can I Help?	SHARE How Can I Help?	SHARE How Can I Help?

Instructional Strategies

The instructional strategies described below are woven throughout the teacher guide. These are not meant to be the only methods used in the classroom, rather are highlighted as best practices for engaging students in active, inquiry-based learning. As teachers and students gain familiarity with the strategies, instructors may wish to modify and personalize to suit the needs of each individual classroom.

For more strategies visit: tinyurl.com/Edu2-0strategies



INSTRUCTIONAL STRATEGY NAME	BRIEF DESCRIPTION
Aha/Hmm?	Students reflect on learning by writing or sharing one or two comments about something new that was learned (aha) and one question they still have (hmm?). This strategy can also be used for giving feedback to peers.
Ask 3 Before Me	Students ask three peers for assistance before asking the teacher. This strategy is used when students are working collaboratively to develop communication skills, encourage peer interactions, and decrease reliance on the teacher's support in large classrooms.
Attention-Getting Signal	The teacher uses an explicit signal to get the attention of the class when they are talking in pairs or working in groups. There are many options for signals, and more than one can be used as long as students recognize it. Options include a clap pattern that students repeat, a simple call and response phrase, or a hand in the air (see: Hands Up). This strategy allows teachers to ask for students' attention without shouting or immediately disrupting student conversations.
Brainstorm	Students provide multiple answers for an open-ended question. This can be done as a whole class or in groups or pairs. The purpose of a brainstorm is to list many answers, not to critique whether answers are realistic, feasible, or correct. Once an initial broad list is made, students can go back to answers to prioritize or eliminate some options. This strategy promotes creativity and problem-solving.
Calling Sticks	Teacher writes the names of students on popsicle sticks and places them in a can/jar. To call randomly on students, the teacher pulls a stick from the jar. After calling on the student, the teacher places that stick into another can/jar so that student is not immediately called on again. This strategy helps teachers call on a wide variety of students and encourages all students to be ready with an answer.
Count Off	Teacher breaks students into groups by having students count off to a certain number. It is important to tell students to remember their number. For example, if the teacher wants three groups, the first student counts one, the next student says two, the next say three, and the next student starts over at one, and so on. When all students have counted, tell all the number ones to meet together, all the number twos, and then all the number threes. This strategy enables time-efficient grouping and reinforces conceptual number use.

INSTRUCTIONAL STRATEGY NAME	BRIEF DESCRIPTION
Foldable	Students fold blank sheets of paper to create sections or flaps for taking notes. Like a three-dimensional graphic organizer, the structure of the foldable helps students organize and present information in a visually appealing or relevant way. Foldables can also be used for studying vocabulary or other content.
Four Corners	Each of the four corners of the room corresponds to a possible opinion about a thought-provoking statement. The teacher may post a picture or a prompt in each corner of the room to represent the opinions/statements. Students walk to the corner that interests them or expresses their opinion to group with other like-minded students. This strategy allows students to express opinions and to prepare justifications with others who agree before presenting to the class.
Gallery Walk	As if in a museum, students walk past displays and respond to questions or prompts about the display. This strategy can be used in multiple ways, including to consider ideas posted on chart paper around the room or to view classmates' final products. This strategy encourages diversity of thought. When used at the end of a project, this strategy allows students to celebrate and take pride in their work while also honoring and responding to others' work.
Hand Motions	Students create hand motions to represent and help them remember ideas, topics, vocabulary, or processes. Involving physical movement engages new parts of the brain in the act of remembering.
Hands Up	The teacher holds a hand in the air to signal that students should stop what they are doing, stop talking, and look up at the teacher. When students notice the teacher's hand up, they also raise a hand to signal to classmates. This strategy is used as an attention-getting signal.
Hands Up, Pair Up	Students stand and walk around the room quietly with one hand raised in the air. The teacher says, "Stop—Pair Up." Students clap hands and stand together with a nearby student. Anyone with a hand still up needs as a partner. Students can easily find each other and pair up.
Jigsaw	Students work cooperatively within small groups to complete tasks, then teach other groups what they have learned. The teacher organizes students into groups. Each student within the group is given specific information to learn and will become an 'expert' on that information for their group. Students then join with those of other groups assigned the same piece of information. These students work together to read a passage, research, and learn about the assigned information. Students then return to their original groups to share their learning. For example, a long passage of information may be broken up into smaller sections, with each student in a working group assigned to read one section. The students from every group assigned the same section form an “expert” group, and read that section together. Students then reconvene in their working groups to report the information learned back to the group. In this example, students are responsible for teaching others in their group about specific information. This instructional strategy builds collaboration, communication, and thinking skills.
KWL Chart	Students fill out a chart with three columns: KNOW, WONDER, and LEARN. This format allows students to think about what they already know on a topic and questions they have, as well as record what they learn throughout the unit. Students can track which questions are answered as they learn.

INSTRUCTIONAL STRATEGY NAME	BRIEF DESCRIPTION
Model	The teacher or student demonstrates exactly how to complete a task. The rest of the class can ask questions before repeating what was demonstrated. This strategy allows the teacher to review any safety concerns or difficult aspects of a task, as well as share advice for task completion. This method should not be used for some inquiry activities, as it could over-influence the direction of student thinking.
Number Sign	The teacher can check for understanding quickly by asking a question and giving students a choice of answers. Students hold up one, two, or three fingers in response to the question asked. The teacher quickly scans the fingers raised to get a sense of how many students are tracking the material.
Numbered Heads	This is a cooperative strategy that holds each member of a group accountable for learning/discussing material. Each student in the group is given a number. The teacher poses a question to the group. Students put their heads together to discuss the answer. The teacher then calls a number to identify a "spokesperson" to share the group's answer.
On the Fence	Each of the two sides of the room corresponds to a possible opinion about a thought-provoking statement. The teacher may post a picture or a prompt on each side of the room to represent the opinions/statements. Students walk to the side that interests them or expresses their opinion to group with other like-minded students. Students may also stay "on the fence" in the middle of the room if they are undecided. Students debate their opinion with evidence to persuade others in the room to agree with them. As students change their minds, they move to the corresponding area in the room.
One Stay, One Stray	After working with partners, one person stays with the work product to present to other students while the second partner walks around and listens to peers in the class share. Then the two students switch roles. Using the strategy, both partners get to share their project and listen to others share.
Pass the Pen	Students work collaboratively in a group with one pen or pencil per group. The teacher poses a question or topic to groups. One student writes down an idea or answer, then passes the pen to the next group member. The pen continues to be passed around, allowing all students an opportunity to write at least once or twice. The strategy is used to brainstorm or activate prior knowledge on a topic and is helpful for encouraging all students to participate and share ideas.
Popcorn	Call on one student to answer a question. After the student has answered the question, they say "popcorn" and say the name of another student. It is now the turn of that student to answer the question, then pick a new student, and so on. If a student has responded, they should not be called upon a second time during the same Popcorn activity.
Shake It Share It High Five	Students move around the classroom until the teacher signals to stop. Students then partner with a nearby student. Partners shake hands, share ideas or work products, then high five before moving around again to find a new partner. This strategy gets students out of their seats and moving, while also allowing them to share with classmates they do not sit near.
Shoulder Partners	Students lean and talk quietly with the person sitting next to them. Shoulder Partner can be used literally to just talk to the people sitting on either side, or it can be used for slightly larger groups of three or four with everyone's shoulders "touching." (This promotes the ability to speak softly—in sort of a huddle).
Snowball Fight	Students respond to a prompt using a half sheet of paper. The student crumples the paper up like a snowball and tosses it across the room. Students pick up a snowball that lands close to them, add their comment or answer, and crumple to toss again. Repeat as needed. The strategy encourages students to interact with the ideas of students who do not sit nearby in an anonymous manner.

INSTRUCTIONAL STRATEGY NAME	BRIEF DESCRIPTION
T-Chart	Students learn to organize information in this strategy. A T-Chart is a graphic organizer with two columns and a title (forming a T shape). Students can use a T-Chart to compare two ideas, sort facts and opinions, identify pros and cons, or brainstorm advantages and disadvantages. The format helps students to visually distinguish between the two columns of information.
Talking Stick	Students discuss answers or ideas in a small group, taking turns by passing a stick around in the group. The student with the stick is the only one who should speak to share his or her answer.
Think Aloud	The teacher models a process of thinking by speaking aloud what is thought. As an example, "I think I need more color here in my drawing." This strategy models for students the type of thinking they can use in an upcoming activity.
Think Time	Teacher allows a distinct period of silence so that students can process tasks, feelings, and responses. Allow students 15 to 30 seconds to think to themselves before calling on anyone to provide an answer to the class. This strategy is particularly helpful for shy or quiet students, as well as students who prefer to process content individually before contributing to a classroom or group conversation.
Thinking Hats	Students wear different colored hats to represent different points of view. For example, a student wearing a green hat must support an idea being discussed, while a student wearing a red hat might be tasked with challenging the idea. Blue can represent asking questions, and white a focus on logistics (how would the idea work?). Teachers can define the perspectives represented by each color hat as needed for each new discussion or keep roles consistent throughout the year.
Thumbs Up	The teacher can quickly check for understanding using this strategy. Students hold a thumb up for agreement, sideways if unsure, or down for disagreement to a question asked (or to indicate other specific answers as defined by the teacher). Thumbs up can also be used as a way for students to signal to a teacher that they are ready for an instruction.
Traffic Light	Students share feedback with peers using a protocol inspired by a traffic light. Students share what is good (green), a question (yellow) and a suggestion for improvement (red).
Venn Diagram	Teacher draws two or more large overlapping circles as a graphic organizer to show what is the same and different about multiple topics. Teacher notes similarities in the overlapping section of the circles, then summarizes differences in the respective parts of the circles that do not overlap. This strategy allows students to visually see and record similarities and differences.
Wait Time	Similar to the Think Time strategy, the teacher waits at least seven seconds after asking a question to the whole class or after calling on a student to respond. This provides time for students to think independently before an answer is given out loud.
Whisper	The teacher can provide whole class verbal processing time by allowing students to respond to a question by whispering the answer into their hands. This strategy prompts every student to attempt an answer, with no social-emotional recourse if their answer is wrong.

Notes on Literacy in Primary 3

Increasing emphasis on "reading to learn"

In the early primary grades, literacy instruction is largely focused on "learning to read." Students learn to decode the meaning of words and sentences on a page, recognize common words, and acquire basic vocabulary. In the Discover curriculum, as students begin to master the basics of "how to read," they are also being challenged to think about and process the content of what is read. After reading a passage aloud and allowing students to review the passage on their own, teachers may ask students to recall information, summarize the main idea of a text, or answer questions using the text itself as evidence to support the answer. These skills are introduced with support from the teacher and peers throughout the earliest grades.

Beginning in Primary 3, educational experiences in literacy shift in focus to emphasize "reading to learn." The purpose of reading expands from primarily decoding a text to experiencing a story or acquiring and using information. When encountering a narrative text, students strengthen their ability to relate to and analyze the characters in a story, as well as distinguish their own point of view from the characters' perspectives. Students discuss questions such as "Have you ever experienced a similar situation?" "What do you think of the character's decision?" "What would you do if you were in this situation?" When encountering informational texts, students develop their ability to retrieve information, make inferences, and integrate ideas presented in texts. In the Discover curriculum, as students deepen the ability to learn from texts, they also strengthen their knowledge of grammar, syntax, vocabulary, and textual features. Continual development of these fundamental reading skills is essential as students encounter increasingly sophisticated subject-matter texts in science, history, and mathematics.

Making Connections

An essential new literacy skill emphasized in Primary 3 is the ability to make connections between ideas, events, and what is learned in different subjects. For example, in the final chapter of Term 1, students connect the scientific knowledge of how the water cycle impacts weather and climate in a given region to the sociological concept of how citizens volunteer to protect the environment and respond to natural disasters involving water. After studying weather and climate patterns presented through fictional stories, informational texts, and data tables, students then read a series of non-fiction articles and fictional narratives that portray how the city of Alexandria responded to devastating floods in 2015. These varied learning experiences emphasize how the skill of reading highlights and reveals connections between scientific, mathematical, journalistic, historical, and fictional contexts.

Computational Thinking

What is computational thinking?
At its core, computational thinking is a way of solving problems. When we break down problems in a way that considers how computer power could help solve them, we are thinking computationally. It is the basis for developing computer programs and applications, but it is also helpful for solving problems in any context or field. Learning about computational thinking continues in Primary 3 through five related skills.

What skills are involved?

Decomposition

- Decomposition is the process of breaking down a complex problem into smaller, more manageable parts.
- Young students are introduced to this skill by learning to break down simple problems (especially, but not limited to, mathematics), describing the steps required to replicate a simple drawing, or identifying the tasks that will allow a group to complete a project.

Pattern Recognition

- Pattern recognition involves observing and identifying patterns and trends in experiments, information, and data.
- Young students begin with observing patterns in the world around them, such as in architecture, music, or the night sky. As students begin to collect original data, such as recording temperatures over multiple days, they begin to analyze the data by looking for patterns.

Abstraction

- Once patterns have been recognized, abstraction involves identifying the broad or more general principles that explain and generate the patterns.
- Young students can identify repeated sequences or patterns in data or instructions, and can consider how to more efficiently express the pattern, such as through an instruction to repeat. This is often referred to as a "loop," and, specifically in mathematics, will help students make the cognitive leap from repeated addition to multiplication.

Algorithm Design

- Designing an algorithm begins with articulating step by step instructions for how to solve similar problems over and over again.
- Young students practice this skill in learning experiences such as recording the steps associated with building a product, solving a mathematics problem, or outlining a trip itinerary.

Testing & Refining

- Testing and refining is an essential step in the Engineering Design Process as well as finalizing a product in any other subject. Common examples of testing and refining include revising writing drafts, rehearsing for a theater production, or practicing mathematics problems.
- Young students begin by identifying their own errors as the first step in this essential skill. Rather than assigning a grade after one attempt to answer a set of mathematics questions, Primary 3 students are often asked to compare their answer to a set of correct answers, and to identify what errors were made if their answer is incorrect. When there is not one "right" answer, such as in writing observations from a science demonstration, students are asked to compare ideas with a peer and discuss where they agree and disagree.

Why is computational thinking important?
Utilizing the power of computers is an essential part of solving the grand challenges our world faces, as well as many of the problems we face in our local communities both today and in the future. Our students need to learn computational thinking skills so that they can leverage the power of today's and tomorrow's computers in solving problems. Computational thinking skills will also give our students another way to approach solving problems, and will build confidence and creativity.

Rubrics for Teacher and Student Use

What is a rubric?
A rubric is a tool used by teachers to help assess student work and ability based on established criteria. Rubrics help describe what a student can do based on expected outcomes.

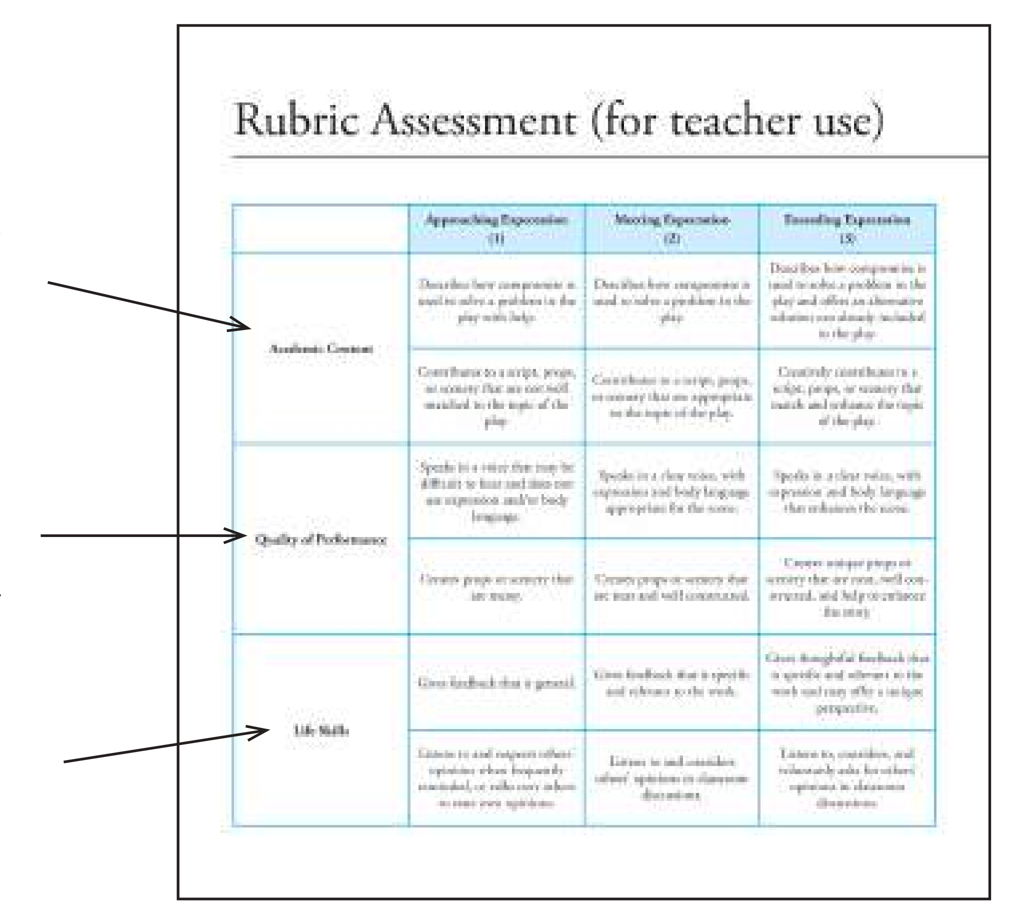
Why do we use rubrics?
Rubrics describe various levels of performance and offer teachers a way to look closely at what students are able to do and highlight areas that need improvement. They are meant to define exactly what learning is expected and are a helpful way to assess students on class work that may not have discrete "correct" answers. Rubrics can also be valuable when discussing student achievement with students and their families.

How are the rubrics organized?
The rubrics found in this curriculum are organized around three priorities: Academic Content, Quality of Performance, and Life Skills.

Academic Content refers to what the students are learning and will often directly reference specific academic standards.

Quality of Performance refers to how the work is presented and may include qualities like neatness, clarity of voice, or organization.

Life Skills refers to abilities that help to make students more successful in life such as collaboration, task management, and respect for others.



Rubric Assessment (for teacher use)

These three areas are found in both the teacher and student rubrics.

In the **student rubrics**, there is only one descriptor for each of the three areas. This helps keep students from becoming overwhelmed by the tool and allows them an opportunity to self-assess. The student rubric offers students a clear picture of what is expected and shows tangible ways to improve.

In the **teacher rubrics**, there are multiple descriptors in each of the three areas. This allows for the assessment of a variety of skills that are demonstrated in complex projects. Two important notes:

- The skills (rows) are assessed independently of each other. In other words, students are assessed as meeting the description in column 1, 2, or 3 for each row. This helps teachers be more specific about each student's strengths and areas for improvement.
- Each section reflects the major content demonstrated in the Share project. It does not represent every single learning indicator addressed in each chapter.

How do we use the rubrics?
Students are introduced to the rubric prior to beginning the Share project near the end of each chapter. Teachers should review the project topic and goals and focus students on the opportunity to "meet expectations" using the rubric provided. Each time students begin the Share project, the class will review the rubric together. Each time students complete the Share project, students will individually reflect using the student rubric, and teachers will assess each student using the provided teacher version in each student book.

The rubrics found in this curriculum are set up on a three-point scale. The goal for students is to fall into the '2' column, meaning that they have met the expectation. Mistakes or minor misconceptions are allowed in the '2' category, but they should be minimal and must not interfere with the student's ability to show clear understanding. The '3' column is included because there will be times when students exceed the expectations. A '3' does not mean that the student work is perfect or mistake-free, rather it means that the student is able to express their understanding in a unique way or show application of the skill or knowledge in another setting. The descriptors found in this column help give teachers a clearer picture of what students can do to go above and beyond the expectation. If a student needs extra support or is unable to meet expectations independently, they will often fall in the '1' column.

When scoring a student, it is possible that their work will match descriptors in all three columns. If a student scores a '3' on one descriptor, that does not mean they have earned a '3' in all others. Each descriptor should be evaluated separately.

Formative Assessment

What is formative assessment?
The term assessment often brings to mind exams. Exams can be effective at summarizing learning. After a student learns material for a certain amount of time, an exam measures how much the student has learned, retained, and can apply. Formative assessment encompasses strategies used in the classroom to find out if and how much students are learning along the way, so that instruction can be adjusted.

Why embed formative assessment in instruction?
Formative assessment is a tool that supports responsive teaching. Embedding formative assessment provides teachers with evidence about how much students are learning, retaining, and applying. A teacher who frequently seeks and receives feedback from students about how much progress they are making toward learning goals can adjust instruction to respond to misconceptions, misunderstandings, and gaps in students' ability to apply learning.

How does embedding formative assessment improve learning?
The following table (Wiliam, 2011) provides an overview of five strategies that teachers, peers, and students can use to give and receive evidence of learning throughout the learning process.

<table>
<tr><th></th><th>WHERE THE LEARNING IS GOING</th><th>WHERE THE LEARNER IS RIGHT NOW</th><th>HOW TO GET THERE</th></tr>
<tr><td>Teacher</td><td rowspan="3">Clarifying, sharing, and understanding what we intend for students to learn and the criteria for success</td><td>Eliciting evidence of learning</td><td>Providing feedback that moves learning forward</td></tr>
<tr><td>Peers</td><td colspan="2">Activating learners as instructional resources for one another</td></tr>
<tr><td>Learner</td><td colspan="2">Activating learners as owners of their own learning</td></tr>
</table>

Wiliam, Dylan. *Embedded Formative Assessment.* Bloomington: Solution Tree Press, 2011.

The first essential step is to identify (and share with students) the desired learning outcomes, or "where the learning is going." Once learning goals are established, teachers, peers, and students themselves can check in on "where the learner is right now," or how much progress is being made toward the goals. Rather than assessing whether or not a student has sufficiently learned content after the fact, formative assessment practices provide feedback so that teaching and learning ("how to get there") can be adjusted to better obtain the agreed-upon goals.

What does embedding formative assessment look like in the classroom?
Formative assessment often occurs through classroom discussions and tasks that ask students to explain and justify their thinking. If individual students struggle to understand or apply a concept, a teacher can differentiate instruction or provide peer support to meet that students' needs. When many students exhibit evidence of misunderstanding or gaps in knowledge or skills, a teacher can decide to review, reteach, or present a new approach to achieving the learning goals.

Lesson Preparation Template for Education 2.0

Grade (P3)Class: ______ Date: ______ Present: ______ Absent: ______ Students' total number: ______

Content / Windows	Theme	Chapter	Lesson	Learning outcomes	Activities	Teacher's Choices						
						Teacher guide Pages	Teaching strategies	Questions/ Modeling	Digital esources	Differentiation / Challenges	Maths Journal	Enrichment

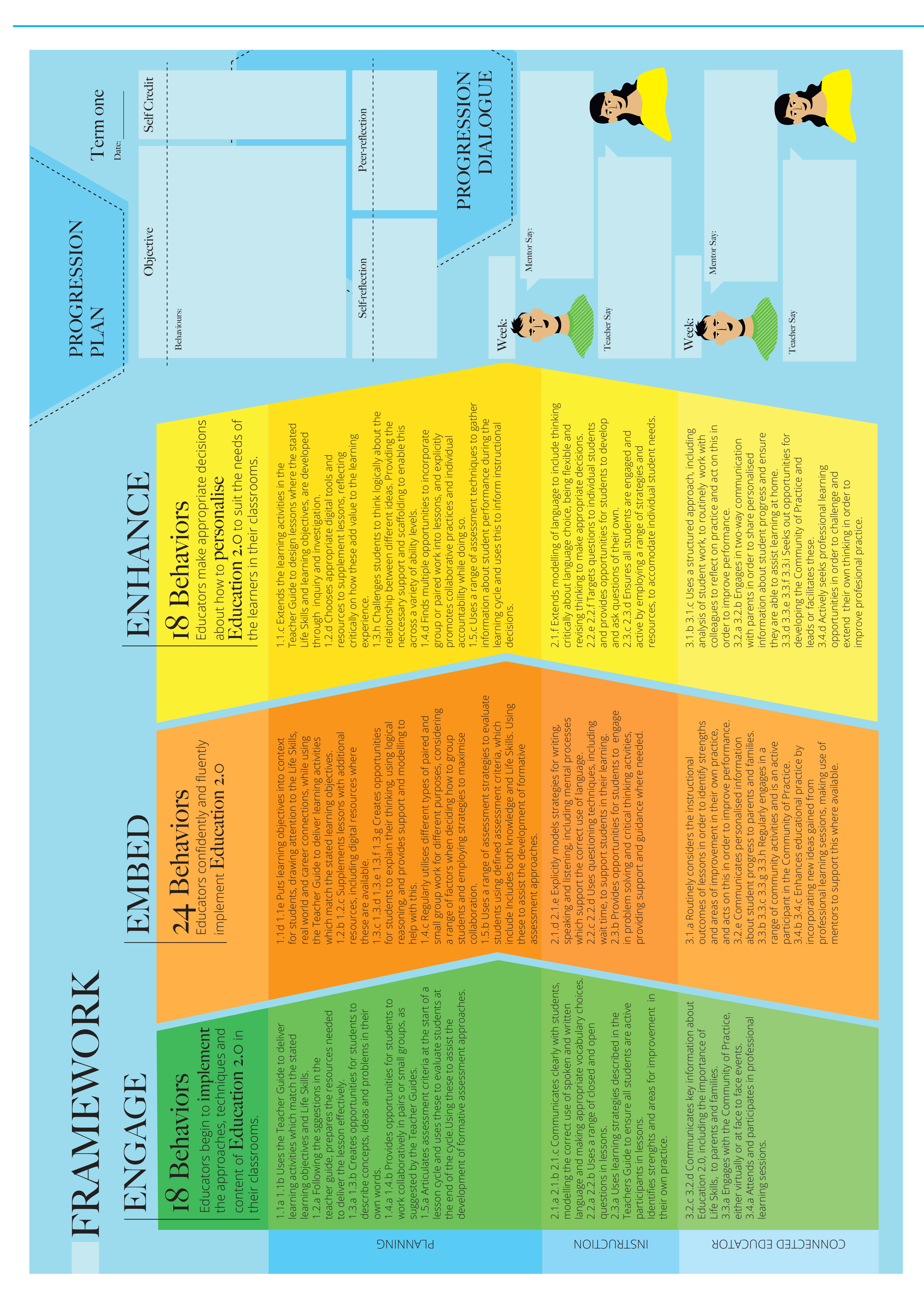
Teacher's Self Reflection ☐ Exceeds expectations ☐ Meets expectations ☐ Sometimes Meets Expectations ☐ Below Expectations ☐

Grade (P3)Class: ______ Date: ______ Present: ______ Absent: ______ Students' total number: ______

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Teacher's Self Reflection ☐ Exceeds expectations ☐ Meets expectations ☐ Sometimes Meets Expectations ☐ Below Expectations ☐

Teacher Framework



Progression Plan and Dialogue Template

Progression Plan

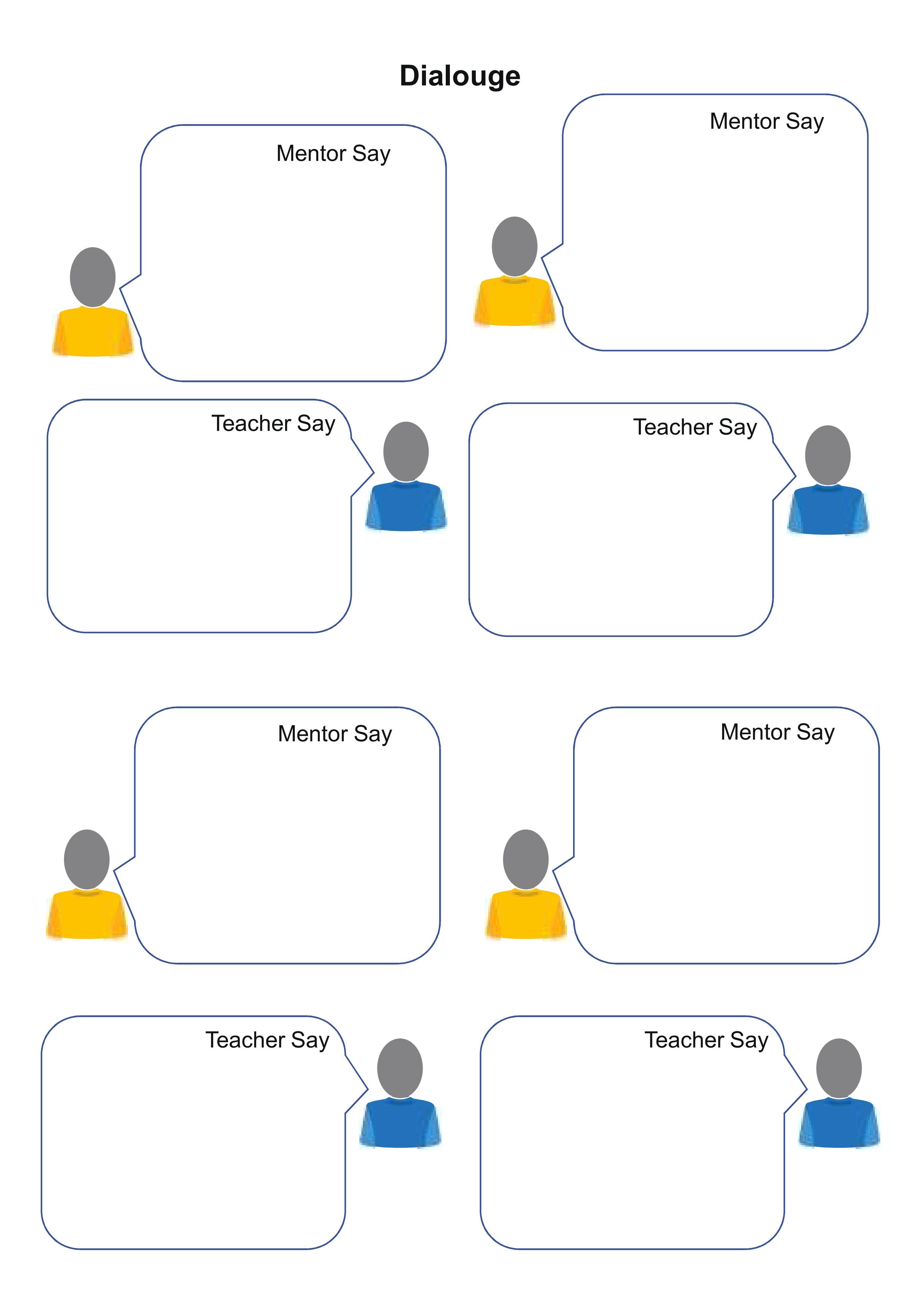
Credits	Objective	Credits	Objective

Self Reflection	Peer Reflection	Self Reflection	Peer Reflection

Credits	Objective	Credits	Objective

Self Reflection	Peer Reflection	Self Reflection	Peer Reflection

Dialouge


Mentor Say
Mentor Say
Teacher Say
Teacher Say
Mentor Say
Mentor Say
Teacher Say
Teacher Say

Digital Resources Available For Use

Teachers are encouraged to use resources from the Egyptian Knowledge Bank as digital learning objects.
Visit **www.ekb.eg** to access thousands of resources from the world's top education publishers.

NO.	CLIP TITLE	DESCRIPTION	CLIP TITLE	QR CODE
1	**Body Bits**	Students learn the functions of important parts of the human body such as skin, bones, muscles, and major organs.	https://tinyurl.com/wclm99l	
2	**Nutrients**	Students deepen their exploration of nutrition by learning about specific nutrients in food such as carbohydrates, vitamins, and minerals.	https://tinyurl.com/rrey8po	
3	**History Revealed**	Students consider how multiple sources provide different kinds of information about events in the past.	https://tinyurl.com/scnypod	
4	**Regions of the world**	Students explore how to locate continents, oceans, and regions of the world on a globe.	https://tinyurl.com/v2lt8el	
5	**Habitats**	Students journey around the world to explore the similarities and differences of different habitats and climates.	https://tinyurl.com/wul9plk	
6	**Interacting Within Habitats**	Students observe how living organisms interact with the environments around them.	https://tinyurl.com/rrowbdo	
7	**Water in our World**	Students explore the role of the water cycle in producing different climates around the world.	https://tinyurl.com/umazhbz	
8	**Adapting**	Students consider how humans can both adapt our lives to the environment around us (such as changing clothing or food sources) and also actively adapt the environment (such as by building structures or planting crops).	https://tinyurl.com/qwx85g7	

PRIMARY 3

Multidisciplinary

WHO AM I?

LIVING HEALTHY

Chapter 1: Making a Stronger Me

Chapter Overview

Making a Stronger Me

COMPONENT	DESCRIPTION	LESSONS
Discover	Students explore the concept of life skills. Through active learning experiences, students discover critical thinking strategies they already use.	2
Learn	Students use a scientific investigation to practice life skills as they collect and analyze data. Students learn to respond to conflict with empathy and analyze commercials to practice critical thinking skills.	5
Share	Students create a resource for using life skills throughout the year and set personal goals for the theme. Students work to informally assess their life skills as a class and collaborate to create a class pledge focusing on life skills.	3

Connection to Issues



Non-Discrimination: We are all alike, and yet we have differences. We can appreciate and talk about how we are the same and different. We can work together and be cooperative and collaborative.

Citizenship: We belong. We are part of a human family. We all have needs and we all have responsibilities.

Life Skills Addressed



DIMENSION	DESCRIPTION
Learn to Know	**Critical Thinking:** • Identify subject/topic-related information. • Explain thinking processes. **Problem-Solving:** • Collect problem-related data.
Learn to Work	**Collaboration:** • Respect for other opinions. **Decision-Making:** • Identify results and expected results.
Learn to Live Together	**Empathy:** • Demonstrate empathy in communicating with others. **Sharing:** • Effective management and organization of tasks. **Respect for Diversity:** • Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.
Learn to Be	**Self-Management:** • Review progress in realizing goals. **Accountability:** • Provide effective feedback. **Communication:** • Reading, writing, non-verbal communication skills. **Endurance:** • Evaluate and analyze stressful (tense) situations.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

D. Reading Skills: Fluency

1.a. Read texts at grade-appropriate difficulty with a level of accuracy and fluency to support understanding.
1.c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

E. Reading Comprehension: Literature

1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
1.b. Describe and compare characters in a story (such as their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.

G. Language: Vocabulary Acquisition and Use

1.a. Infer the meaning of unknown and multiple-meaning words using a variety of strategies (such as context and synonyms).
1.g. Demonstrate command of the conventions of grammar and usage when writing or speaking.

SPEAKING AND LISTENING:

A. Foundational Skills

1.a. Engage effectively in a range of collaborative discussions with peers and adults in small and larger groups.
1.b. Follow agreed-upon rules for discussions.
1.c. Listen to the speaker with interest and attention until the end of the statement or story.
1.e. Listen to speakers in order to make connections; comprehend; and gain, clarify, or deepen understanding of a topic or issue.
1.f. Build on others' ideas in discussion and express own ideas clearly.
4.a. Speak clearly and at an understandable pace with appropriate tone, gestures, and body language.
5.a. Speak in complete sentences, following grammatical rules, in order to provide requested detail or clarification.

MATH:

C. Numbers and Operations in Base Ten

1.b. Order a set of up to 5 numbers with values up to 100,000 from least to greatest or greatest to least.

D. Measurement and Data

1.a. Select appropriate tools and measure objects in millimeters, centimeters, or meters.
1) Estimate and measure lengths using millimeters, centimeters, and meters.

SCIENCE:

A. Skills and Processes

1.b. Design simple investigations to collaboratively produce data that answers a question.
1.c. Represent data in tables to reveal patterns.
1.d. Construct an explanation with evidence (such as observations, patterns) and/or data.
1.f. Listen actively to arguments and indicate agreement or disagreement based on evidence.
1.g. Communicate information with others in oral and written forms.

SOCIAL STUDIES:

D. Human Systems

1.b. Explain why people must make economic choices.

ECONOMICS AND APPLIED SCIENCES:

A. Family Relationships and Safety in the Community

2.a. Express personal feelings and identify others' expression of feelings.
2.c. Develop strategies for dealing with hurtful behavior.

B. Childhood Development

1.a. Analyze personal changes in knowledge, skills, or abilities associated with growth.

VOCATIONAL FIELDS:

A. Career Social Skills and Preparation

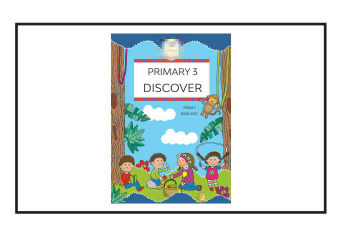
1.a. Identify and demonstrate good interpersonal skills at school and home (including in different vocational activities).
1.b. Work cooperatively with a group of students to accomplish a task (including tasks related to vocations).
1.c. Explain and demonstrate the group interaction terms *compliment* and *encourage*.

CH 1 Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	**DISCOVER: Students will:** • Analyze text to determine the meaning of the term "life skills." • Identify specific skills according to prior knowledge. • Self-assess early understanding of life skills.
2	**DISCOVER: Students will:** • Share strategies used for critical thinking. • Solve riddles and explain strategies used to solve them.
3	**LEARN: Students will:** • Work cooperatively with a group to design a simple investigation. • Collect data that answers a question. • Measure lengths using centimeters.
4	**LEARN: Students will:** • Work cooperatively with a group of students. • Communicate information with others in oral and written forms. • Represent and interpret data. • Draw a conclusion using data and explain the evidence used.
5	**LEARN: Students will:** • Identify and connect to the characters in a new story. • Develop strategies for dealing with hurtful behavior.
6	**LEARN: Students will:** • Analyze strategies in commercials used to sell a product. • Determine the effectiveness of a commercial. • Work collaboratively to brainstorm ideas for a radio commercial.
7	**LEARN: Students will:** • Use life skills strategies to create and present a commercial. • Actively listen to others as they present. • Assess others' performance with honesty and empathy.
8	**SHARE: Students will:** • Review strategies used in life skills. • Set personal goals.
9	**SHARE: Students will:** • Collaborate to create a class pledge. • Follow an agreed upon process.
10	**SHARE: Students will:** • Collaborate to complete a class pledge. • Use creativity to show progress as a "stronger me." • Self-assess understanding of life skills.

Materials Used

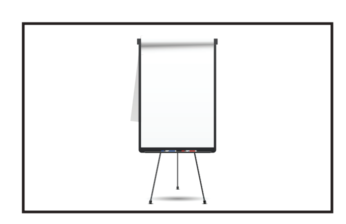
Student book



Pencil



Chart paper



Crayons



Clock and/or digital timer



Scissors



Markers



Bell



Aluminum foil



Paper tubes



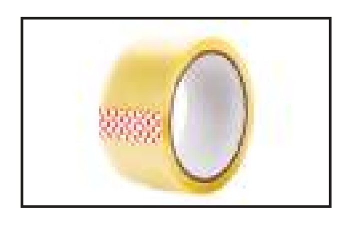
Colored pencils



Glue



Tape



Meter stick



Recyclable materials

Lesson 1 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Analyze text to determine the meaning of the term "life skills." • Identify specific skills according to prior knowledge. • Self-assess early understanding of life skills.	• Collaboration • Communication • Life skills • Pledge • Self-management	• Student book • Pencils

PREPARATION

In the first lesson, students will define and give examples of life skills. Be prepared with either chart paper or an area on the board that can be saved for reference throughout the chapter.

LIFE SKILLS

Learn to Work	Learn to Be
Collaboration: • Respect for other opinions.	Communication: • Reading, writing, non-verbal communication skills.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter.

TEACHER SAY: We have an exciting year of learning ahead of us. As we begin, let's see what you remember from last year. What are some important things you remember learning in Primary 2?

Note to Teacher: At the beginning of the school year, students are sometimes less willing to share ideas whole group. During discussions in today's lessons and throughout the first chapter, it may be necessary to elicit responses by giving an example of your own or by repeating something you overheard in discussion. While students are working together either in small groups or with a partner, make note of some of the comments you hear that can further the whole group discussion. If there are not many whole group responses, ask students you observed to share ideas with the class.

TEACHER DO: Allow time for students to think, and then introduce the instructional strategy **Popcorn**. Choose one student to share. After the student finishes, ask him or her to choose another student to share by saying, "I will **Popcorn** to ________." Sharing continues for three to five students.



STUDENTS DO: Share learning remembered from the previous school year.

TEACHER SAY: Your teachers will be proud of what you remember. We are going to add to what you learned with fun new experiences throughout this upcoming year. We have so much to explore. We are going to begin the year learning about "Living Healthy." What do you think we might learn?

TEACHER DO: Use **Calling Sticks** to choose three students to answer the question before continuing.

Note to Teacher: This would be a good time to have students explain how the **Calling Sticks** *are used in class for those who may not be familiar with the strategy.*



STUDENTS DO: Predict what they will learn.

2. TEACHER SAY: All of your ideas are very good. We will be learning about how we can keep our bodies, minds, and classroom healthy. In later chapters we will learn about making healthy choices. This chapter is called, "Making a Stronger Me." What do you think of when you hear the words "stronger me?"



STUDENTS DO: Share ideas.

TEACHER SAY: We often think of making our bodies stronger. Did you know we can also make our minds and our abilities stronger? I am sure that all of you have an experience in the past where your mind got stronger–maybe as you learned something new or difficult? Turn to your Shoulder Partner and share a time your mind got stronger.



STUDENTS DO: Share experiences with a **Shoulder Partner**.

TEACHER SAY: Our Share Project for this chapter will be to create a resource that we can use all year long. As Primary 3 students, you can do even more than you did last year. One skill we will learn this year that is hard for younger students is tracking our own progress as learners. The first part of our project will be to make personal goals to track throughout the year. The second part will be working together to write a pledge for our class. Have you ever heard the word PLEDGE before? Who wants to share what you think it means?



STUDENTS DO: Raise hands to define pledge as a promise or something similar.

TEACHER SAY: Yes, a pledge is a promise to ourselves and each other. This year we will work together as a team of learners, helping each other succeed and making our classroom healthy and happy. We will use some important tools on our learning journey. We will call these tools "life skills." When you put these words together, "life" and "skills," what do you think they mean?



TEACHER DO: Direct students to talk at tables or in other small groups. Walk around and listen to discussions, encouraging students to listen to others' ideas, even if they disagree. This is an opportunity for students to practice the Life Skill: Collaboration.

Note to Teacher: This is a good time to informally assess students' early understandings. Are students able to build a definition by combining words? Are students able to effectively communicate ideas? Are students listening to others' ideas and building upon them?



STUDENTS DO: Communicate and listen to others' ideas.

TEACHER SAY: I heard many good ideas about the term "life skills." Let's make a class definition that we can all agree upon. We will start with one definition. Then we will use other ideas to add to it or change some of the words until we are able to agree upon one definition to share.



TEACHER DO: Choose one or a few students to share ideas for an initial definition. Record ideas on the board for all students to see, then invite two or three other students to add or change words until one class definition is created. This is an opportunity for students to practice the Life Skill: Communication.

Note to Teacher: Make certain students understand that a skill is something we practice and then hope to learn to do well.



STUDENTS DO: Work together as a team, discussing and adding ideas to create a class definition.

3. TEACHER SAY: What a good definition. Now that we have a definition, let me give you some examples of life skills. I will write these on the board so you have time to think about them.

TEACHER DO: Record the following phrases on the board. Leave room under each to write examples. Read each word aloud as you write.

- Collaboration
- Communication
- Self-management

Note to Teacher: Since these words may be completely new to students, guide them in sounding out and repeating the words as needed. Lead a discussion, such as outlined below, to explore students' early understanding of each skill.

 STUDENTS DO: Read the words with the teacher.

TEACHER SAY: **You have already demonstrated collaboration today. Collaboration means working together. Let's all demonstrate good collaboration now. Pretend that you and your Shoulder Partner are working together to paint a sign welcoming others to our classroom. Collaborate, discuss, and decide what supplies you would need.**

 STUDENTS DO: Talk together to plan supplies needed.

TEACHER DO: Observe whether students are talking together, sharing, and listening to each other's ideas.

TEACHER SAY: **I heard and saw good collaboration. I will use Calling Sticks to choose a few students. Please describe how you and your partner collaborated.**

 STUDENTS DO: Explain how partners shared, listened, and responded to each other's ideas.

TEACHER SAY: **As responsible Primary 3 students, you know that each of you has to be involved, or participate, to collaborate well. Collaboration will be an important life skill to work on this year. A big part of collaboration is communication. We communicate our ideas and our feelings in many ways. Raise your hand if you would like to share ways you communicate with others.**

TEACHER DO: Refer to the second life skill listed as you introduce communication.

 STUDENTS DO: Explain ways to communicate such as talking, writing, listening, and through body language.

TEACHER SAY: **I can already tell we will be good communicators. One focus for our year will be to learn to communicate better through our writing skills. When we read stories, the author of the story communicates how the characters are feeling. The words an author uses can make us smile, laugh, or even cry sometimes. As Primary 3 students, we will learn to use words that help us communicate our ideas better.**

TEACHER DO: If you have a picture book or a novel you are currently or planning on reading to the class, read a passage that invites the reader to see a specific image in their mind or feel a specific emotion. Ask students how the author communicates these ideas to the reader. Invite discussion about how ideas are communicated through writing.

 STUDENTS DO: Discuss written communication.

TEACHER SAY: **I am looking forward to us becoming stronger writers. Let's think about other ways we communicate. What are some ways we communicate through art?**

TEACHER DO: Choose students to share ideas, such as through color and patterns. If available, show one drawing or picture for students to discuss.

 STUDENTS DO: Share ideas.

TEACHER SAY: **Another way we communicate is silently or through body language. You learned about body language in Primary 2. Let's demonstrate body language now. Everyone stand and we will communicate with each other through body language.**

TEACHER DO: Ask students to show emotions only through facial or body movement. Begin with

something simple such as: Show that you are happy. Remind students they are only communicating through body language, so there should be no talking. Other suggestions include: sad, excited, scared, having a new idea, ready to listen, interested in a conversation, confused.

 **STUDENTS DO:** Use facial expression and gestures to communicate.

TEACHER SAY: As we work on our life skills this year, we will learn about appropriate ways to communicate ideas in different situations. Let's look at the last life skill written on the board. It is self-management. As older students, you are able to control your behavior and things you do. Talk to your Shoulder Partner for a minute. What do you think is meant by self-management?

 **STUDENTS DO:** Communicate ideas with a **Shoulder Partner**.

TEACHER DO: Invite students to share ideas whole group. Then explain that self-management is a new skill they can use as older students to include setting and working toward goals and thinking beyond the present to include long-term ideas.

TEACHER SAY: We will develop our self-management skills this year by setting goals and making certain we achieve those goals. We will look at our progress and learn to work on small goals in order to reach bigger goals. Let's think about one way we can do this. Take a minute to think, and then share with your Shoulder Partner one goal you would like to make for this school year.

 **STUDENTS DO:** Think and share goals.

TEACHER SAY: I heard some big goals. One goal I heard was [summarize an overheard goal, such as becoming a better reader]. What would be one thing you would do today to help reach that goal?

 **STUDENTS DO:** Suggest ideas.

TEACHER SAY: Yes. To reach a big goal, we can make smaller goals along the way. There are many ways you will show self-management this year. It looks like we have a good start in understanding some life skills. Let's look back at our definition. Do these words help explain our definition of life skills? We will use Thumbs Up to share. You can show your answer in three ways. Show a Thumbs Up if the words fit our definition. Turn your thumb down if you disagree or if it is not a good definition. Turn your thumb to the middle if you are not quite sure.

TEACHER DO: As you give this direction, model each hand gesture for students. Make certain all students show thumbs. This serves as a quick preassessment for understanding. If needed, adjust the class definition according to students' responses.

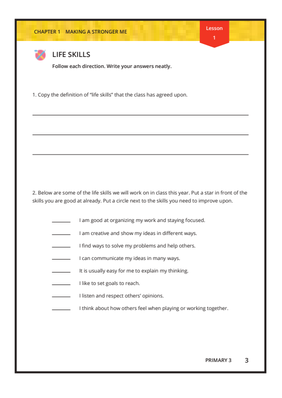
4. TEACHER SAY: Let's use our new student book to help us remember the meaning of life skills.

TEACHER DO: Hand out one student book per student. Make sure each student has a pencil.

TEACHER SAY: I am always curious when I get a new book. Let's take a minute to open our student books and look through the pages briefly. I think you will find we have lots of interesting things to learn this year.

TEACHER DO: Allow a few minutes for students to explore.

 **STUDENTS DO:** Glance through the pages, sharing what they find interesting with nearby students.


CHAPTER 1 MAKING A STRONGER ME
Lesson 1

LIFE SKILLS

Follow each direction. Write your answers neatly.

1. Copy the definition of "life skills" that the class has agreed upon.

______

______

______

2. Below are some of the life skills we will work on in class this year. Put a star in front of the skills you are good at already. Put a circle next to the skills you need to improve upon.

______ I am good at organizing my work and staying focused.
______ I am creative and show my ideas in different ways.
______ I find ways to solve my problems and help others.
______ I can communicate my ideas in many ways.
______ It is usually easy for me to explain my thinking.
______ I like to set goals to reach.
______ I listen and respect others' opinions.
______ I think about how others feel when playing or working together.

PRIMARY 3 3

TEACHER SAY: Now that you have had some time to explore, open your student book to the page Life Skills. Follow along as I read the directions.

 **READ ALOUD: Follow each direction. Write your answers neatly.**

TEACHER SAY: Read number 1 with your Shoulder Partner. Once you are ready, go ahead and complete number 1 only. When you finish, put your pencil down so I know you are ready to continue.

TEACHER DO: Walk around the classroom, helping students as needed.

 **STUDENTS DO:** Copy the definition with help from a neighbor if needed.

 **READ ALOUD:** **Below are life skills we will work on in class this year. Put a star in front of the skills you are good at already. Put a circle next to skills you need to improve upon.**

TEACHER SAY: **This is a tool for you to start thinking about yourself as a thinker and a learner. Take your time and think about each line before answering.**

TEACHER DO: Depending on your students' literacy levels, consider reading each statement aloud, adding a brief explanation if needed. Allow **Think Time** after each statement.

 **STUDENTS DO:** Self-assess skills.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: **Remember that the name of this chapter is "Making a Stronger Me." It may seem strange that we are beginning by thinking about life skills. Let's think hard for a minute. How do you feel when you communicate your ideas well? What happens when you do not communicate clearly or others do not understand you?**

 **STUDENTS DO:** Share experiences and ideas.

TEACHER SAY: **When we demonstrate good life skills, we feel good. We feel strong. Life skills will also help us work together as a class.**

TEACHER DO: Encourage a brief discussion on how life skills, health, and being strong are related.

 **STUDENTS DO:** Ask questions and discuss.

Lesson 2 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Share strategies used for critical thinking. • Solve riddles and explain strategies used to solve them.	• Critical thinking • Strategy	• Student book • Pencil

PREPARATION
Have available the Life Skills chart created by students in Lesson 1.

LIFE SKILLS	
Learn to Know	Learn to Work
Critical Thinking: • Explain thinking processes.	Collaboration: • Respect for other opinions.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In our first lesson, we talked about the focus of this chapter: life skills. Let's look at the list we began in our previous lesson.**

TEACHER DO: Call on students to help read and discuss the life skills introduced in the previous lesson. Encourage questions and discussion.

 STUDENTS DO: Read life skills list and ask questions.

2. TEACHER SAY: **Today we will focus on a new life skill that will be important as we work together: critical thinking. Let's begin with a short discussion about what critical thinking might look like. What do you do when you want to remember something new?**



TEACHER DO: Allow about 15 seconds of Think Time before choosing a student to begin the discussion. Record responses of three to five children on the board or on chart paper. Encourage students to respond to others' ideas and provide a variety of answers. This is an opportunity for students to practice the Life Skill: Critical Thinking.

Note to Teacher: Students often raise hands quickly in hopes of being chosen to answer a question. By waiting five to 10 seconds, students will learn that taking time to think before responding will help them discover their best answer. It is not necessary to choose the student whose hand is raised first. Consider explaining this explicitly to help students understand the rationale behind different participation strategies.

 STUDENTS DO: Think before responding with ideas.

TEACHER SAY: **You already have good thinking strategies. Another time we often use critical thinking is when we try to identify our own errors in math problems. Thinking critically means to slow down and consider our own thoughts and thought process. Think Time is a familiar strategy that helps us in our discussions. How does Think Time help you use critical thinking?**

 STUDENTS DO: Share experiences.

TEACHER SAY: When we use critical thinking skills, we actually think about thinking. That may sound funny, but it is important to be able to explain our thinking to ourselves and others. Let's think about what you do when you have more than one answer to choose from. How do you choose the correct answer?

TEACHER DO: Take answers after allowing **Think Time**. If needed, suggest ideas such as: look at all possible answers, think about what I already know, check if the answer makes sense to me, remember what has been studied in class, use previous experiences. Note in the discussion that these strategies work even when there is not just ONE right answer.

 **STUDENTS DO:** Explain the use of reasoning, checking answers, and other ways.

3. TEACHER SAY: These all are good examples of how you use critical thinking skills. We can also call these STRATEGIES. Let's use our strategies to make some discoveries in our student books. Turn to the page Using Critical Thinking Skills.





TEACHER DO: Make certain all students are on the same page and that each student has a **Shoulder Partner**. The following task is an opportunity for students to practice the Life Skills: Communication and Collaboration.

TEACHER SAY: Collaborate with your Shoulder Partner to identify each picture. Think about the clues you use to solve each mystery image and any other strategies you used. We will go over the answers together when everyone has finished.

 **STUDENTS DO:** Collaborate to identify the image excerpts.

TEACHER SAY: Some of the pictures are more difficult than others. Let's go over your answers. We may have different answers and different ways to solve and that is good. We can learn from each other's ideas.

TEACHER DO: Take more than one answer for each picture, making certain students talk about the different clues used. As students describe the thinking strategies they used, identify the abstract strategy used for the class, such as:

- **Brainstorm**ing possible answers
- Considering prior knowledge and learning
- Considering prior experiences
- Checking to see if an answer is reasonable

The pictures in order are: a butterfly wing, a bee's head, and a piece of fabric. Remind students it is not expected that all answers are correct but they should be able to explain the strategies used to identify each mystery image.

 **STUDENTS DO:** Discuss answers and strategies and correct own work.

TEACHER SAY: As you worked together to identify these mystery images, what life skills did you use? Also tell us how these life skills helped you decide on an answer.

 **STUDENTS DO:** Share examples of collaboration and communication.

TEACHER SAY: You are already using your critical thinking skills. Let's keep using these skills as we try to solve some riddles. Who can explain what a riddle is?

TEACHER DO: Allow **Think Time** before choosing a student. If students have not had experience with riddles, explain what riddles are and give an example of a riddle such as: What goes up but never comes down? (your age)

STUDENTS DO: Share other riddles or explanations of how to solve riddles.

TEACHER SAY: Turn to the next page in your student book, Riddles. You will work with a Shoulder Partner. Read the directions and complete the page together. Be sure to talk with your partner about the strategies you use to solve the riddles.

 **STUDENTS DO:** Work together to solve riddles and share strategies.



TEACHER DO: Help students as needed to communicate strategies used to solve the riddles. Guide students to put away student books as they finish. If some students finish early, invite them to work together in a separate area, making up their own riddles. This is an opportunity for students to practice the Life Skill: Collaboration.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today I hope you realized what good thinkers you are. We did a lot thinking about our own thinking. When we think about strategies, it helps us become better thinkers. Who in this room is a good thinker?

 **STUDENTS DO:** Respond.

TEACHER SAY: We also collaborated with each other today. Collaboration is when we work together to find answers. This is another life skill that is really important. Who can share how you collaborated with your Shoulder Partner today?

 **STUDENTS DO:** Share examples of collaboration.

TEACHER DO: If necessary, define and give examples of collaboration. After a short discussion, ask students to share with their families how they are using critical thinking and collaboration in school.

Lesson 3 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Work cooperatively with a group to design a simple investigation. • Collect data that answers a question. • Measure lengths using centimeters.	• Data • Problem-solving • Reliable	• Student book • Pencil • Crayons • Chart paper or board • Tape • Meter stick

PREPARATION

Collect supplies needed for experiment (listed in Materials). Read the directions prior to leading in class. The experiment is best done in groups of three so that each student has a role. Find a location where students have enough room to jump forward, possibly a hallway or open space outside. Depending on the amount of space available, consider having all students jump from the same line one or two at a time, or consider having groups spread out and put down their own tape for a starting line. As an alternative, consider doing this experiment in partnership with the Physical Education teacher. If students are not able to answer the question, "How far can we jump?" safely in the classroom or outside, guide students to ask other questions they can test such as, "How many times can we jump in 30 seconds?" or "How high can we jump?"

LIFE SKILLS

Learn to Know

Problem-Solving:
- Collect problem-related data.

Learn to Work

Collaboration:
- Respect for other opinions.



Learn (90 minutes)

Directions

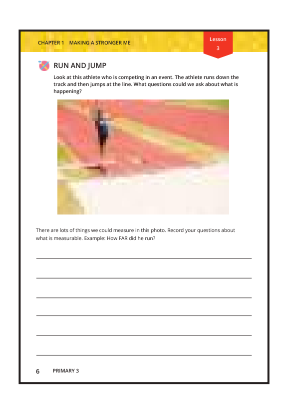
1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER DO: Distribute or ask students to retrieve the student books.

TEACHER SAY: **Yesterday, we learned about the life skill of collaboration. What do you do when you want to get better at something, like reading, riding a bike, or passing a soccer ball?**



STUDENTS DO: Share ideas.



TEACHER SAY: **Good collaboration skills will help us learn better all year long. If we want to get better at collaborating, we need to practice. Today we are going to practice collaboration as we do a science investigation. Please turn in your student books to Run and Jump. What do you see in the picture on this page?**



STUDENTS DO: Share observations.

TEACHER SAY: **You have great observations. Let's find out what the directions say.**

TEACHER DO: Choose a student to read the directions above the picture, or read them aloud to the class. Give students several minutes to study the picture and think of questions.



STUDENTS DO: Review the photo and share questions.

TEACHER SAY: **You asked some great questions. Scientists always begin their work by asking questions. The questions that many scientists ask are a very specific type. Many scientists ask**

questions that can be answered by measuring something. Look at the picture in your student book again. Follow along as I read the directions at the bottom of the page.



READ ALOUD: **There are lots of things we could measure in this photo. Record your questions about what is measurable. Example: How FAR did he run?**



STUDENTS DO: Review the photo again and consider questions that could be answered by measuring.

TEACHER DO: Use **Calling Sticks** to choose students to offer questions that could be answered by measuring something. Facilitate student discussion by asking another student to agree or disagree that the suggested question is measurable or by asking another student to identify what would be measured (or what tool could be used) to answer the question. Other examples of measurable questions include:

- How fast is he running?
- How far (or high) will he jump?
- How long does he stay in the air before landing?
- How much does he (or his shoes) weigh?
- How long are his legs?

TEACHER SAY: **You have a lot of good questions about this athlete. There are a lot of different things we could measure. Choose three of your favorite questions from our conversation and record them on the lines in your books.**



STUDENTS DO: Record three measureable questions.

2. TEACHER SAY: **We are going to do an investigation to answer the question: How far can we jump? Finding the answer to this question is the goal of our investigation. Please think about this question as we do the investigation.**

TEACHER DO: Write the question on the board for reference throughout the investigation.

TEACHER SAY: **Let's imagine we are all walking down the road together. Where might we be going?**



STUDENTS DO: Share ideas of where the class is going.

TEACHER SAY: **All of a sudden, we are stopped by a deep trench in the road. Someone suggests we jump across it, but it looks pretty wide. We want to make sure that we can all get across safely. We measure that the trench is 80 cm wide. Now we need to test how far we can all jump. How many students do you think will be able to get across?**



STUDENTS DO: Make predictions.

TEACHER SAY: **We are going to test this. For us to be able to conduct a successful investigation, we all need to work together and follow directions. I will Model each step. Remember that as scientists, we follow a clear procedure to make certain our results are reliable. What do you think that word means: RELIABLE?**



STUDENTS DO: Offer ideas.

TEACHER SAY: **Reliable means that we can count on the results and that the results are accurate. You can also use reliable to describe a person that you can really depend on, like your mother or grandmother.**

Please turn in your student books to How Far Can We Jump? We are going to read all of the steps together. Then we will gather our materials and begin collecting our data.

TEACHER DO: Choose students to read each instruction and discuss any questions. Ask a few students for ideas about how to stay safe during this investigation, such as removing obstacles from or not standing in the space where another student might land. Give clarification, help students prepare materials, and review expectations of behavior as needed. Divide students into groups of three.

3. TEACHER SAY: First, count off in your group, assigning numbers 1, 2, and 3. You will take turns jumping and recording your distance, starting with number 1. Decide who in your group will mark the landing and who will measure for the first jumper.



STUDENTS DO: Count off and assign initial roles.



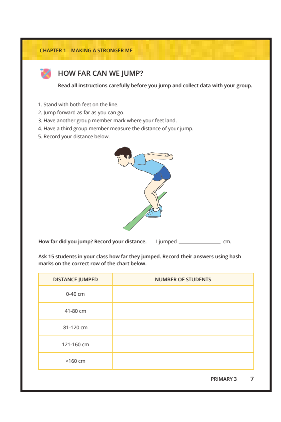


TEACHER DO: Facilitate the brief investigation as planned and described in the student books, reminding students to bring student books and pencils to their work areas in order to record results. If time allows, encourage each student to jump two or three times and to record the longest attempt. This is an opportunity for students to practice the Life Skills: Problem-Solving and Collaboration.



STUDENTS DO: Conduct investigation.

TEACHER DO: Allow groups time for each student to jump and record their measurement. As students work, circulate around the room to assist where needed. Listen and watch for good examples of collaboration and problem-solving, periodically announcing what you see or hear. For example, "I like the way [X] listened to [Y's] idea for how to best measure the long distance."



CHAPTER 1 MAKING A STRONGER ME

HOW FAR CAN WE JUMP?

Read all instructions carefully before you jump and collect data with your group.

1. Stand with both feet on the line.
2. Jump forward as far as you can go.
3. Have another group member mark where your feet land.
4. Have a third group member measure the distance of your jump.
5. Record your distance below.

How far did you jump? Record your distance. I jumped ________ cm.

Ask 15 students in your class how far they jumped. Record their answers using hash marks on the correct row of the chart below.

DISTANCE JUMPED	NUMBER OF STUDENTS
0-40 cm	
41-80 cm	
81-120 cm	
121-160 cm	
>160 cm	

PRIMARY 3 7

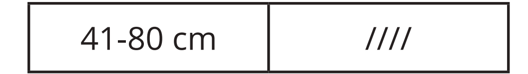
4. TEACHER SAY: You are wonderful jumpers. Now let's find out how far other students jumped. Read the directions for the last part of the page How Far Can We Jump? to yourself.



STUDENTS DO: Ask 15 students how far they jumped and record a tally mark in the appropriate box.

Note to Teacher: In recording student distances in a table format, students are practicing the computational thinking skill of creating an artifact to help them recognize patterns. To reinforce this skill, ask students to imagine why a simple list of 15 distances jumped would be a less helpful or less efficient way to record the data than the table format provided.

TEACHER DO: Give students time to record measurements from 15 classmates. If needed, review how to fill out the table: For each distance jumped by a student, find the range that includes the distance and add a tally mark in the same row of the next column. For example, if four students jumped 45 cm, 52 cm, 56 cm, and 70 cm, the second row of the table would look like:



41-80 cm	////

Provide structure, such as assigning paired groups to trade data and calling for rotation of paired groups as needed to ensure orderly sharing. While students work, circulate around the room to assist if students are having difficulty.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: You did a great job collecting data from your classmates. In order to collect the data, you had to use the important life skill of collaboration. Collaboration means that you work well together and respect each other's opinions. You will have many opportunities to practice this skill when you work together this year. Today you also practiced the life skill of problem-solving. One key step in solving a problem is collecting data, which you just did. What problem were you trying to solve today?



STUDENTS DO: Share ideas.

TEACHER DO: Help students to recognize that the problem to solve was answering the questions, "How far can we jump?" and "Can we all jump over the trench in the road?"

TEACHER SAY: You will work in your table groups for today's closing. The person who jumped the shortest distance will be today's group leader. Please discuss how you had to work together and use the life skills of collaboration and problem-solving to collect data and answer the question: How far can we jump?





STUDENTS DO: Assemble in groups and discuss. (This is an opportunity for students to practice the Life Skill: Collaboration.)

TEACHER DO: Allow group discussion for about five minutes. Walk around and listen for examples students give showing how they used the life skills of problem-solving and collaboration.

TEACHER SAY: **Thank you for all of your hard work today. You used some important life skills while you worked in groups to collect data to answer our question. In the next lesson, we will present the data we collected to others.**

Lesson 4 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Work cooperatively with a group of students. • Communicate information with others in oral and written forms. • Represent and interpret data. • Draw a conclusion using data and explain the evidence used.	• Decision-making • Graph	• Student book • Pencil • Crayons • Tape • Scissors • Chart paper or board

PREPARATION

Decide where students will hang graphs for the **Gallery Walk** at the end of the lesson.

LIFE SKILLS

Learn to Be	Learn to Work
Communication: • Reading, writing, non-verbal communication skills.	Decision-making: • Identify results and unexpected results.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **Yesterday, we used the life skills of collaboration and problem-solving to collect data that will help us answer a question. Who remembers what question we were investigating?**

 STUDENTS DO: Share ideas from memory.

TEACHER SAY: **Yes, we are trying to answer the question: How far can we jump? Specifically, we want to know: Can the whole class jump at least 80 cm? What data did we collect so that we can answer this question?**

 STUDENTS DO: Share ideas.

TEACHER SAY: **As we worked yesterday, we focused on practicing two life skills. What are two ways you had to work together to collect this information?**

TEACHER DO: Encourage students to discuss the roles each student had while jumping and measuring the distance each student jumped.

 STUDENTS DO: Share ideas.

TEACHER SAY: **Thank you for reminding us how important the life skills of collaboration and problem-solving are when we are working together as scientists. Remember that many scientists ask questions that can be answered by measuring something. What did we measure yesterday?**

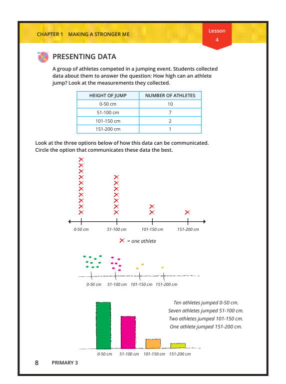
 STUDENTS DO: Share ideas.

2. TEACHER SAY: **After they collect and analyze their data, scientists communicate what they learned in a way that others can understand. Today, we are going to continue working as**

scientists to review our data and share our results with the class. When we collect data, we often arrange it in a table to keep it organized. To review and communicate our data, let's figure out a way to better SEE our data. What do you already know about making data visual?



STUDENTS DO: Share prior knowledge about graphs from math.



CHAPTER 1 MAKING A STRONGER ME — Lesson 4

PRESENTING DATA

A group of athletes competed in a jumping event. Students collected data about them to answer the question: How high can an athlete jump? Look at the measurements they collected.

HEIGHT OF JUMP	NUMBER OF ATHLETES
0-50 cm	10
51-100 cm	7
101-150 cm	2
151-200 cm	1

Look at the three options below of how this data can be communicated. Circle the option that communicates these data the best.

0-50 cm, 51-100 cm, 101-150 cm, 151-200 cm

X = one athlete

Ten athletes jumped 0-50 cm.
Seven athletes jumped 51-100 cm.
Two athletes jumped 101-150 cm.
One athlete jumped 151-200 cm.

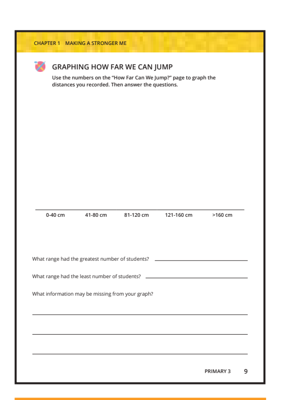
8 PRIMARY 3

TEACHER SAY: **When we want to review our data and communicate it to others, making it visual can help. Graphs are visual aids that help us see similarities and differences between groups. Often, our brains process information faster when we see an image than a list of words and numbers. Let's first look at some options we have and choose one that makes the most sense. Please turn in your student books to Presenting Data. Read the directions to yourself and work with a Shoulder Partner to select the option you think is best.**

TEACHER DO: Relate the data given back to the image of the athlete from the beginning of Lesson 3, reminding students that, "How high did he jump?" was another option for a measureable question.



STUDENTS DO: Read the directions, discuss the options presented, and then circle the preferred option for communicating the data.



CHAPTER 1 MAKING A STRONGER ME

GRAPHING HOW FAR WE CAN JUMP

Use the numbers on the "How Far Can We Jump?" page to graph the distances you recorded. Then answer the questions.

0-40 cm, 41-80 cm, 81-120 cm, 121-160 cm, >160 cm

What range had the greatest number of students? ____

What range had the least number of students? ____

What information may be missing from your graph?

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TEACHER DO: Facilitate a class conversation about the pros and cons of each style for communicating the data. Ultimately, students should recognize that a graph is more helpful than sentences for quickly communicating data. Students should also realize that the bar graph is easier to read for comparisons because the grouped dots are hard to count. If students have already learned line plots in math, allow them to choose between a bar graph and a line plot for the next page.

3. TEACHER SAY: **Making our data visual can help us analyze it and communicate it to others. Let's work on transforming the table of 15 students' distances into a visual graph. We will work in the same groups as the investigation. Make sure you have a pencil and crayons out to use as you turn to the page Graphing How Far We Can Jump. Read the directions as a group, then complete the graph using your table from the previous lesson.**





STUDENTS DO: Create a graph of the data collected in the previous lesson and answer questions about the graphs created. (This is an opportunity for students to practice the Life Skill: Communication.)

TEACHER DO: Support students as needed in transferring the information from the table to a graph. Encourage students to peer-check (review with other students in the class). As groups finish, hang one graph from each group around the room. Students will engage in a Gallery Walk to observe the data on the graphs.

4. TEACHER SAY: **You are very good at creating graphs. We are going to look at the graphs each group created to see what we can learn about the question we asked: How far can we jump? Let's take a Gallery Walk. Observe silently at first, then we will discuss what we noticed.**



STUDENTS DO: Move around the room and observe graphs. (This is an opportunity for students to practice the Life Skill: Decision-Making.)

TEACHER DO: Put students back in working groups to discuss what they discovered from the graphs. Lead a discussion about the graphs. Questions could include:

- What similarities did you see? What differences did you notice?
- Which category/range/distance had the most students? Which had the least?
- Why do some of the graphs look different?
- How does a bar graph help to communicate data?

5. TEACHER SAY: **Let's return to our story of walking down the road. We measured the trench and found out it was 80 cm wide. Look at the data you collected from 15 students. How many of those students would be able to jump across? Talk with your group.**



STUDENTS DO: Decide whether the 15 students surveyed would be able to cross.

TEACHER SAY: Can we answer our question? Can everyone in the class safely jump across the trench?

 **STUDENTS DO:** Share ideas and provide evidence.

TEACHER DO: Listen as groups use graphs as evidence to decide who would be able to cross. Facilitate a discussion to answer the question for a class, prompting students to cite evidence and explain their thinking. Students should recognize that if any graph includes bars in one of the first two categories (0-40 cm and 41-80 cm), those students would not be able to jump across the trench. If this is the case, extend the discussion to ask students for other creative ideas about how to safely cross the trench (since leaving a student behind is not an option).

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we used another life skill: decision-making. One key part of making decisions is identifying our results. We also used the skill of communication. Turn to your Shoulder Partner and describe how we used communication today.

 **STUDENTS DO:** Reflect on communication with their **Shoulder Partner**.

TEACHER SAY: We are going to use Aha/Hmm? in your table groups for today's closing. Please share one or two "ahas," or something new that you learned today, and one "hmm?," or question you still have. The person who has the fewest number of letters in their name will share first.

 **STUDENTS DO:** Assemble in groups and discuss.

TEACHER DO: Allow group discussion for about five minutes. Walk around and listen for new learning and questions students share.

TEACHER SAY: You were great communicators today. You worked together well to make decisions about the results of our experiment. This will help you learn from each other all year long.

Lesson 5 Overview

LEARNING OUTCOMES

Students will:
- Identify and make connections to the characters in a new story.
- Develop strategies for dealing with hurtful behavior.

KEY VOCABULARY

- Empathy

MATERIALS

- Student book
- Pencils
- Crayons

PREPARATION

Prepare two poster papers. One poster says, “Rashad wants Zeina to be happy, so he agrees with her idea of writing the script about Sara Ahmed.” The other poster says, “Rashad suggests explaining each idea and taking a group vote.”

LIFE SKILLS

Learn to Live Together	Learn to Work	Learn to Be
Empathy: • Demonstrate empathy in communicating with others.	Collaboration: • Respect for other opinions.	Endurance: • Evaluate and analyze stressful (tense) situations.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today’s lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

TEACHER SAY: **We have talked about six important life skills in the past few lessons. Who can name one?**

TEACHER DO: Call on students with hands raised until all six life skills have been named (collaboration, communication, self-management, critical thinking, problem-solving, and decision-making).

 STUDENTS DO: Offer ideas from memory.

TEACHER SAY: **In our first lesson, you considered which skills you were good at and which skills you wanted to work on. Now that you know a little more, turn to a Shoulder Partner to name one skill you would like to work on this year.**

 STUDENTS DO: With a partner, identify a life skill to work on.

TEACHER SAY: **Your goals are very worthy. Throughout the year, we will work on improving these skills so we can learn as much as possible. In our last lesson, we focused on decision-making and communication. In our next few lessons, we will be learning about and practicing more strategies we can use to work together. Think about times you have worked with others. Is it always easy?**

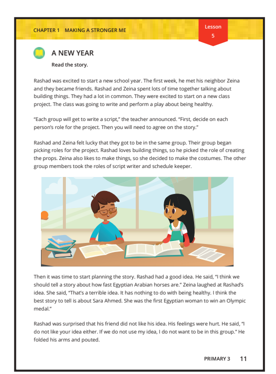
TEACHER DO: Provide **Think Time**, then ask a few students to share ideas.

 STUDENTS DO: Reflect on experiences collaborating with others.

TEACHER SAY: **Did any group encounter a conflict as you were doing the jumping investigation? Can someone describe a conflict your group had and also be kind while describing the disagreement or difficulty?**

TEACHER DO: As students answer, prompt them to describe what happened and reflect on the conflict itself rather than putting blame on another student.

 **STUDENTS DO:** Share experiences from the jumping investigation.



CHAPTER 1 MAKING A STRONGER ME Lesson 5

A NEW YEAR

Read the story.

Rashad was excited to start a new school year. The first week, he met his neighbor Zeina and they became friends. Rashad and Zeina spent lots of time together talking about building things. They had a lot in common. They were excited to start on a new class project. The class was going to write and perform a play about being healthy.

"Each group will get to write a script," the teacher announced. "First, decide on each person's role for the project. Then you will need to agree on the story."

Rashad and Zeina felt lucky that they got to be in the same group. Their group began picking roles for the project. Rashad loves building things, so he picked the role of creating the props. Zeina also likes to make things, so she decided to make the costumes. The other group members took the roles of script writer and schedule keeper.

Then it was time to start planning the story. Rashad had a good idea. He said, "I think we should tell a story about how fast Egyptian Arabian horses are." Zeina laughed at Rashad's idea. She said, "That's a terrible idea. It has nothing to do with being healthy. I think the best story to tell is about Sara Ahmed. She was the first Egyptian woman to win an Olympic medal."

Rashad was surprised that his friend did not like his idea. His feelings were hurt. He said, "I do not like your idea either. If we do not use my idea, I do not want to be in this group." He folded his arms and pouted.

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TEACHER SAY: Sometimes when we work together, we also get along easily. Sometimes we do not get along very well. Today we will think and learn more about skills needed to deal with conflict when it comes up in our groups. Turn your student book to the page A New Year. Let's meet a new friend, Rashad. Remember that last year, we read about Nour and her family and friends. Rashad is a new character who is in Primary 3 just like you. He is going to help us as we learn throughout the year. Follow along as I read.

Note to Teacher: Depending on student literacy levels, you may adjust how the story is read. Consider having students read the story in small groups or having a few proficient readers read aloud to the class.

TEACHER DO: Read the story aloud. Pause to explain unfamiliar words if needed. After the story, ask the questions below, pausing to allow students to discuss answers with a **Shoulder Partner**, then using **Calling Sticks** to select students to answer for the whole class. Encourage students to look back at the story as needed to answer each question. Prompt students to provide evidence from the story and facilitate discussion as appropriate.

TEACHER SAY: Thank you for following along as I read. Let's answer some questions about the story.

- **Who are the characters in the story?**
- **What do we know about the characters?**
- **What happens in the story?**
- **How do the characters feel?**

 **STUDENTS DO:** Respond to questions with a **Shoulder Partner**.

2. TEACHER SAY: To think more about what is happening in this story, we are going to Brainstorm all of the different ideas we can think of for how Rashad could handle this difficult situation.



Empathy

Endurance

 **STUDENTS DO: Brainstorm** ideas in partners or small groups. (This is an opportunity for students to practice the Life Skills: Empathy and Endurance.)

TEACHER DO: Give students ample time to discuss ideas with each other.

3. TEACHER SAY: You have wonderful ideas about what Rashad might do to deal with the problem he is having at school.

TEACHER DO: Lead a discussion that encourages students to think about the ways in which Rashad may solve the problem, such as:

- Who else might Rashad be able to ask for help?
- How could Rashad describe to Zeina how he is feeling?
- What tools could Rashad use to solve the problem?

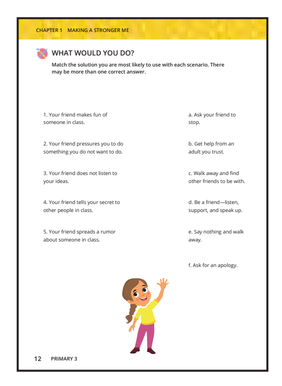
 **STUDENTS DO:** Share ideas.

TEACHER DO: As students share ideas, record their answers according to the strategy used to deal with the problem. For example, if a student suggests that Rashad could tell Zeina how he feels, record the strategy as, "Be honest and communicate your feelings."

TEACHER SAY: Your ideas are a great start. You have learned that collaboration is a very important life skill in order to work well with others. Recall that collaboration means that you have respect for others' opinions. Do you think Zeina collaborates well in this story?

 **STUDENTS DO:** Share ideas.

TEACHER DO: Encourage students to use evidence from the story to explain their reasoning.



CHAPTER 1 MAKING A STRONGER ME

WHAT WOULD YOU DO?

Match the solution you are most likely to use with each scenario. There may be more than one correct answer.

1. Your friend makes fun of someone in class.
2. Your friend pressures you to do something you do not want to do.
3. Your friend does not listen to your ideas.
4. Your friend tells your secret to other people in class.
5. Your friend spreads a rumor about someone in class.

a. Ask your friend to stop.
b. Get help from an adult you trust.
c. Walk away and find other friends to be with.
d. Be a friend—listen, support, and speak up.
e. Say nothing and walk away.
f. Ask for an apology.

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4. TEACHER SAY: You already know some ways to handle difficult situations like Rashad is having with his friend, Zeina. Let's look at some other examples of when friends may have to deal with hurtful behavior. Please turn in your student books to What Would You Do? We will read the directions together.



READ ALOUD: **Match the solution you are most likely to use with each scenario. There may be more than one correct answer.**



STUDENTS DO: Read the scenarios on the left and match each with a solution on the right.

TEACHER DO: Give students time to finish matching the hurtful behavior with a solution. While they are working, circulate around the room to assist if students are having difficulty.

CHAPTER 1 MAKING A STRONGER ME

ASKING FOR HELP

Read the story.

That night, Rashad was eating dinner with his parents and younger sister, Yasmeen.

"You would not believe what Zeina did," Rashad said. "I thought we should tell a story about how fast Egyptian Arabian horses are. But Zeina laughed at me. The other kids in our group had different ideas too. She did not like any of them. I do not know what to do!" Rashad cried. "Zeina is my friend, but now it feels like we do not even like each other. All because we cannot agree about what story to tell for the play."

Rashad's parents were glad to see him excited about the play. They were also worried about how he worked with others. Rashad's mom said, "I think it would be best for you to learn more about your friend's idea. You might change your mind."

"Yes, that's a great idea," his dad said. "Why don't you ask everyone in the group to explain why they think their idea is best? Then you can take a group vote."

Yasmeen had been listening to the conversation. "I do not think that idea will work. Zeina will still be mad at you. Just forget your idea and use her idea instead. Then Zeina will be happy, and you can play with your friend again."

As Rashad helped clean up after dinner, he thought about his parents' and sister's advice.

PRIMARY 3 13

5. TEACHER SAY: Very good. Let's read more of the story to find out what Rashad does about the problem he is having in class. Please turn in your student books to Asking for Help. This time, take a few moments to read the story silently to yourself. If you do not know some words, that is okay. We will read and think about the story together in a few moments.

TEACHER DO: Give students ample time to read the story. If students struggle to read independently, encourage them to identify known words and review the text and images quietly until the class reconvenes to read the story together.



STUDENTS DO: Read the story silently.

TEACHER SAY: Let's read the story aloud together. You may have noticed that the characters talk with a lot of feeling. As you read, practice expressing the style of the sentence in your voice.

TEACHER DO: Use **Calling Sticks** to choose students to read the story, each reading one sentence. As students read sentences that include interrogative, exclamation, or imperative punctuation, prompt them to consider how they can express that style with their voices. If needed, read the story out loud to the class.



STUDENTS DO: Read along.

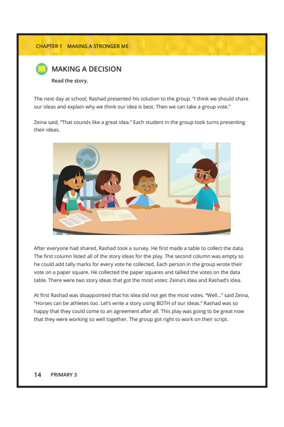
6. TEACHER SAY: Very good. You read with a lot of expression. Rashad got advice from his parents and his sister. Now he has to make a decision about what he is going to do when he goes back to school. We are going to use the On the Fence strategy to debate which idea he should use.

TEACHER DO: Hang two poster papers up on opposite sides of the room. One poster says, "Rashad wants Zeina to be happy, so he agrees with her idea of writing the script about Sara Ahmed." The other poster says, "Rashad suggests explaining each idea and taking a group vote." Explain how students will use the **On the Fence** instructional strategy to decide which solution would be best for Rashad. Students walk to the side that expresses their opinion to group with other like-minded students. Students may also stay "on the fence" in the middle of the room if they are undecided. Students debate their opinion with evidence to persuade others in the room to agree with them. As students change their minds, they move to the corresponding area of the room.





STUDENTS DO: Move to the side of the room that matches their opinion, then debate the question. (This is an opportunity for students to practice the Life Skill: Collaboration.)



CHAPTER 1 MAKING A STRONGER ME

MAKING A DECISION

Read the story.

The next day at school, Rashad presented his solution to the group. "I think we should share our ideas and explain why we think our idea is best. Then we can take a group vote."

Zeina said, "That sounds like a great idea." Each student in the group took turns presenting their ideas.

After everyone had shared, Rashad took a survey. He first made a table to collect the data. The first column listed all of the story ideas for the play. The second column was empty so he could add tally marks for every vote he collected. Each person in the group wrote their vote on a paper square. He collected the paper squares and tallied the votes on the data table. There were two story ideas that got the most votes: Zeina's idea and Rashad's idea.

At first Rashad was disappointed that his idea did not get the most votes. "Well..." said Zeina, "Horses can be athletes too. Let's write a story using BOTH of our ideas." Rashad was so happy that they could come to an agreement after all. This play was going to be great now that they were working so well together. The group got right to work on their script.

14 PRIMARY 3

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER DO: Read the final part of the story Making a Decision in the student book aloud to the class. Facilitate discussion about how the friends resolve their conflict if enough time remains.

TEACHER SAY: Today we talked about ways to deal with hurtful behavior. One important part of responding to conflict is to think about how others feel. The word we use for this is empathy. What are some examples of empathy you read or learned about today?

STUDENTS DO: Share ideas.

TEACHER SAY: Thank you for all of your work today. Remember to use some of the strategies we learned today when you have a difficult situation with a friend. Tomorrow we will continue practicing life skills as we build a strong foundation for learning this year.

Lesson 6 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Analyze strategies in commercials used to sell a product. • Determine the effectiveness of a commercial. • Work collaboratively to brainstorm ideas for a radio commercial.	• Advertisement • Band wagon • Commercial	• Student book • Pencils • Sample product cards

PREPARATION

Prepare cards with sample products for commercial practice. Suggested products include:
- Sandwich at a local fast food restaurant
- Robot
- Book
- Board game
- New drink flavor
- Video game
- New ice cream flavor

LIFE SKILLS

Learn to Know	Learn to Work
Critical Thinking: • Identify subject/topic-related information. • Explain thinking processes.	Collaboration: • Respect for other opinions.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In our last lesson, we talked about how to deal with hurtful behavior. We learned that empathy is a word used to describe understanding how someone else feels. Can you remember a time you showed empathy with a friend or family? Be sure to explain your thinking. I will use Calling Sticks to choose three students.**

 STUDENTS DO: Share experiences.

TEACHER DO: Use this brief discussion as an informal assessment of understanding for the term EMPATHY.

2. TEACHER SAY: **We have been learning about how we use life skills at school. We also use them every day in our lives outside of school. Some things we see or hear every day in our lives are commercials and advertisements. I think we need to use our life skills when listening to these commercials. Talk in your groups. What do you think, and why?**

 STUDENTS DO: Discuss experiences and ideas in small groups.

TEACHER DO: As students discuss, listen to responses and build upon their discussions as you move to the whole group discussion.

TEACHER SAY: **I heard many of you say commercials use communication to get us to buy something. I also heard that commercials sometimes use tricks to persuade us. I wonder if critical thinking would help us not get tricked. Let's use our experiences to think about**

commercials we see on television or that play before online videos. What are some of the commercials you have seen lately? I will list three or four on the board as we Brainstorm ideas.

 **STUDENTS DO:** Recall recent commercials.

TEACHER DO: Record responses on the board, leaving room to add other information.

TEACHER SAY: **Very good. Now let's think about why you remember these commercials. Is it the music, the people, or maybe the product itself?**

TEACHER DO: Record responses on the board.

 **STUDENTS DO:** Share a variety of reasons.

TEACHER SAY: **These are what you remember, but what is the purpose of the commercial? What does the commercial want you to do?**

 **STUDENTS DO:** Share answers.

TEACHER DO: Record responses on the board. Be ready to continue the discussion by choosing one commercial to discuss.

Note to Teacher: If possible, show students a popular commercial. Have students identify how the commercial invites students in, draws their attention, and encourages them to buy. An advertisement from a magazine or the newspaper could be used instead of a commercial.

TEACHER SAY: **Let's think about this commercial. We will use our critical thinking skills to analyze the strategies used in the commercial. Then we can decide if the commercial helps us make good choices.**

TEACHER DO: Lead a discussion about some of the strategies used in the commercial or advertisement, Possible questions include:

- Who is the commercial selling to? What is the intended audience?
- How is music used? Is it an important part of the commercial?
- Is the packaging colorful? Do the colors draw your attention?
- Are cartoon characters or famous people being used?
- How are words being used to persuade you? (Examples: You need this. It is easy to use.)

After students have shared ideas, ask if the commercial is helping them to make good choices. Ask a few students to explain the reasoning behind their answers.



 **STUDENTS DO:** Discuss strategies used in commercials. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

Note to Teacher: Students may have different opinions about whether the commercial helps them make good choices. If this happens, encourage students to listen to different points of view. **On the Fence** *is a strategy that might help students clarify their ideas and come to a conclusion. Divide the room into two sides, one for each point of view. Have students physically move to one side or the other to correspond with individual beliefs. Students who cannot decide can stay in the middle ("on the fence"). Ask participants from each side to provide reasoning and students can move to the "other side of the fence" if they are persuaded/convinced by classmates' arguments.*

TEACHER SAY: **Let's go a little further in our thinking. We are going to analyze whether the content of the commercial helps us make a good decision. Part of making a good decision is knowing what to expect from a product. What are some facts in the commercial that help you know about the product itself?**

TEACHER DO: Using the commercial you have chosen, guide students to find examples of facts that could help them to make a good choice. Examples of questions include:

- Does the commercial show you how the product works?
- If the product is food, does it give you nutritional facts?
- Does the commercial give age limits or safety concerns?
- Is there a price listed?

STUDENTS DO: Share observations about the content of the commercial.

TEACHER SAY: **Companies use lots of strategies to sell us products. As buyers, we need to know what matters and what does not matter. For example, a car commercial might tell me about all the amazing features that help me talk on the phone and listen to music while driving. But what if the safety of the car matters most to me? A commercial about connection features would not help me make a good decision. What else do you need to know about the product in our commercial to make a good decision?**



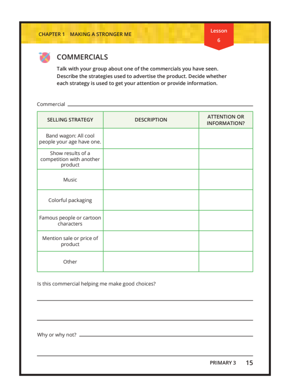
STUDENTS DO: Share ideas.

TEACHER DO: Extend the conversation to reinforce that some strategies used are just to get attention. Other strategies give facts about the product. Help students identify the difference between facts that will guide them to a good decision about buying a product and those that are only meant to get their attention.

TEACHER SAY: **Does our commercial help you make a good decision?**



STUDENTS DO: Decide if the commercial gives enough information to make a good choice.



CHAPTER 1 MAKING A STRONGER ME — Lesson 6

COMMERCIALS

Talk with your group about one of the commercials you have seen. Describe the strategies used to advertise the product. Decide whether each strategy is used to get your attention or provide information.

Commercial ______

SELLING STRATEGY	DESCRIPTION	ATTENTION OR INFORMATION?
Band wagon: All cool people your age have one.		
Show results of a competition with another product		
Music		
Colorful packaging		
Famous people or cartoon characters		
Mention sale or price of product		
Other		

Is this commercial helping me make good choices?

______

Why or why not? ______

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3. TEACHER SAY: **We have talked about one commercial. I wonder if other commercials use the same types of strategies. Let's see what we can find out. Open your student book to the page Commercials.**

TEACHER DO: Divide students into groups of three or four to work together. Consider moving students into new groups for this and the next learning experience. Make certain students are seated in groups before beginning instructions.



STUDENTS DO: Get in groups with student books and pencils.

TEACHER SAY: **Let's read the directions together and review the selling strategies described.**



READ ALOUD: **Talk with your group about one of the commercials you have seen. Describe the strategies used to advertise the product. Decide whether each strategy is used to get your attention or provide information.**

Note to Teacher: If radio, magazine, or newspaper advertisements are available, provide access to students and alter the directions.

TEACHER SAY: **Work together to decide on the commercial you are reviewing. Be sure everyone in your group has seen it. Once you decide, go ahead and begin.**



Collaboration



STUDENTS DO: Decide on a commercial to review. Work collaboratively to complete the page in the student book. (This is an opportunity for students to practice the Life Skill: Collaboration and Communication.)

TEACHER DO: Walk around, helping students as needed. As you hear good life skills being used during discussion, point these out to students in passing. For example, "Nadia, I like the way you are listening to your partner. That is a great demonstration of the life skill of collaboration." As students finish, ask them to share conclusions with another team.

4. TEACHER SAY: **I heard you using some great communication skills. Did you find a commercial that can help you make a good choice? If so, what part of the commercial helped you?**



STUDENTS DO: Raise hands to respond.

TEACHER DO: List parts of a commercial that students can use to make good choices.

5. TEACHER SAY: **You worked well together on analyzing these commercials. Now let's experience a commercial from the side of the seller. I have some pretend products written on cards. I will give each group a card. Your job will be to create a commercial for the product on the card.**

TEACHER DO: Alter the learning experience based on available materials and format of commercials previously studied.

- Film commercial (such as for TV or online video): Students create a commercial "concept" that includes a 30-second storyline and what images or text the viewer would see on the screen. A four-square template for drawing, such as for a brief comic strip, can help students visualize the plot and design.
- Radio commercial: Students create a 30-second script (including sound or music cues) for a radio commercial to sell the pretend product. Students focus on creating a story and what verbal descriptions of the product the listeners need.
- Print advertisement: Students create an advertisement formatted for print that includes images, colors, and text.

TEACHER SAY: You and your team will begin work on the commercial today and present it tomorrow. Then we will decide whether or not we should buy your product. Are there any questions about how we will make our commercials?



STUDENTS DO: Ask questions.

TEACHER DO: Respond to questions according to your class needs, then hand out one product card to each group. There will be duplicates. Suggestions for product cards are listed, but feel free to create your own:

- Sandwich at a local fast food restaurant
- Robot
- Book
- Board game
- New drink flavor
- Video game
- New ice cream flavor

CHAPTER 1 MAKING A STRONGER ME

A NEW PRODUCT: BRAINSTORM

Brainstorm ideas for your commercial. Listen to everyone's ideas in your group. Write all the ideas in your book. Be sure to name your product.

Product Name ______

How will we get the buyer's attention?

What should we say about the product?

What words, sounds, or images can we use to persuade the audience?

WORDS	SOUNDS	IMAGES

What else do we need to add?

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TEACHER SAY: Once you have your product, take a few minutes to discuss product details with your group. Decide what exactly you are selling, then come up with a product name and write it at the top of the page A New Product: Brainstorm.



STUDENTS DO: Imagine details and a name for the new, pretend product.

TEACHER SAY: When you have a product name, read the directions on the page with your team. You will have time today only to Brainstorm ideas. Remember, your goal is for us to buy your product. We will be listening to find out if your commercial persuades us to make a good choice.

TEACHER DO: Walk around, listening and asking questions of students to guide their thinking. Make certain all students have been given a voice in the brainstorming. As you hear good life skills being used during discussion, point these out to students in passing.



STUDENTS DO: Listen to each other's ideas, record as many as possible, choose strategies to use.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: I know we will hear some good commercial presentations in our next lesson. Before we end today, do you have any new questions about your goal for tomorrow?



STUDENTS DO: Ask any questions pertaining to the commercial.

Lesson 7 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Use life skills strategies to create and present a commercial. • Actively listen to others as they present. • Assess others' performance with honesty and empathy.	• Peer assessment • Requirements	• Student book • Pencils • Extra paper (one or two sheets per group) • Crayons

PREPARATION
Be sure students are in their working groups prior to beginning class.

LIFE SKILLS	
Learn to Know	Learn to Be
Critical Thinking: • Identify subject/topic related information. • Explain thinking processes.	Accountability: • Provide effective feedback.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

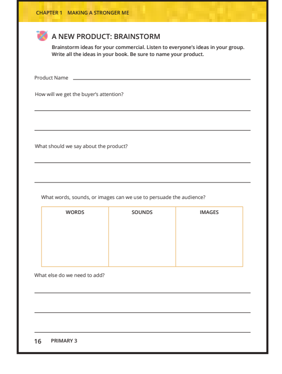
TEACHER SAY: **It looks as though you are excited to work on today's presentations. Before we start, I wonder: Why are we talking about commercials if we are learning about life skills? I will use Calling Sticks to choose three people to share after we have had Think Time.**

TEACHER DO: Provide **Think Time**, then choose three people to share ideas. Allow for discussion as needed.





STUDENTS DO: Reflect on life skills being used in the study of commercials. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)



2. TEACHER SAY: I am glad you have made the connection. Life skills are not skills we learn only for school. We use them everywhere. Now it is time for you to begin working on your commercials. First, open your student book to A New Product: Brainstorm. Take a moment to review the page silently. When you are finished, look at me. Then I will know you are ready to begin.



STUDENTS DO: Review brainstorm ideas independently.

3. TEACHER SAY: Before we begin, we need to decide on requirements for your commercials. Who can explain what we mean when we say REQUIREMENTS?



STUDENTS DO: Give definition and examples of requirements.

TEACHER DO: Requirements was a vocabulary word in Primary 2 and was used quite a bit to shape a student design project. Add explanation and examples if students struggle to remember the word.

TEACHER SAY: **We have some good examples of requirements we have used. Now let's decide on requirements for your commercial.**

TEACHER DO: Take suggestions from students and list the agreed upon rules on the board. Requirements will depend on the format being used. Consider:

- Time limit for radio or film (30 seconds)
- Everyone participates
- Music can or cannot be added (for radio or film)
- Size restrictions for print

4. TEACHER SAY: I really like the way you were able to cooperate with each other to decide on requirements for your commercials. Now we can begin working. You have already started with some ideas in your student book. As a team, review the first question: How will you get the listeners' attention? Take time to decide as a group one way to introduce your product. Circle your choice in your book.



STUDENTS DO: Use brainstorm ideas to choose one answer.

TEACHER DO: Guide students step-by-step through the process of outlining and sketching the commercials based on the format chosen. Remind students to refer back to the brainstorm ideas as needed. Provide paper for groups to sketch, design, or script. Allow approximately 15 minutes of work time. Walk around, encouraging students and reminding them of the time left to work.



STUDENTS DO: Use information to put together the commercial.

TEACHER SAY: Now you are ready to practice presenting your commercial. You will have 10 minutes to practice and then we will begin presenting to each other. Remember that everyone in the group should participate in the presentation.



STUDENTS DO: Practice presenting commercials, assigning roles as needed so that everyone in the group participates.

Note to Teacher: Determine how groups will present. Depending on time, you may want four or five groups to share with each other or each group to present to the entire class. Print advertisements might be best shared in smaller groups or with a **Gallery Walk** *so they are more easily seen.*

5. TEACHER SAY: Are we ready to present our commercials?

TEACHER DO: Instruct students on the process. Review rules of audience behavior. Allow each group to present. Once all groups have performed, pair groups for peer feedback. Make certain everyone has a student book.



STUDENTS DO: Present commercials and listen carefully.

6. TEACHER SAY: Your presentations were so much fun to hear. Now that we have been able to hear about all the commercials, you are going to present them one more time so we can get feedback. I have already paired each group with another group so that we can assess our peers. Please take out your student book and turn to Peer Assessment. Review the directions and read the page. When you are ready, look toward me.



STUDENTS DO: Ask any clarifying questions.



TEACHER DO: Review the page as needed. Review expectations for peer feedback. Tell students to allow time for recording responses in between presentations. This is an opportunity for students to practice the Life Skill: Accountability.



STUDENTS DO: Perform and assess each other.

TEACHER SAY: I am proud of you. I heard good expression in your voices. I saw people listening closely and trying to write good feedback for their friends. Now you will share that feedback. I want to hear good communication skills as you share with each other.



STUDENTS DO: Share responsibly.

TEACHER DO: Walk around, listening to student collaboration.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: **What a special day this has been. You showed how well you can use your life skills in many ways today. Who would like to share life skills someone else in the class showed today?**

 STUDENTS DO: Share about another student.

Lesson 8 Overview

LEARNING OUTCOMES
Students will: • Review strategies used in life skills. • Set personal goals.

KEY VOCABULARY
• Compliment

MATERIALS
• Student book • Pencils • Crayons

PREPARATION
• Using sticky notes or small cards, write the name of each student on one card. Students will use the cards at the end of the lesson. • Consider writing your own goals as a model for students. Use the student page, My Goals, as a reference.

LIFE SKILLS	
Learn to Know	Learn to Be
Critical Thinking: • Identify subject/topic related information. • Explain thinking processes.	Self-Management: • Review progress in realizing goals.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **Today we are going to start our Share Project. Let's think back on what we have learned so far. Our chapter title is, "Making a Stronger Me." How do you think you are getting stronger through this chapter? First share with your Shoulder Partner, then I will choose a few students to share with the class.**



STUDENTS DO: Share ideas.

TEACHER DO: Use Calling Sticks to choose four or five students to share ideas with the class.

TEACHER SAY: **We are becoming stronger thinkers, and we are building a strong community of learners as we learn about life skills. Let's take out our student books and review how we have demonstrated life skills so far. At your table, see if you can identify one example of each life skill in your work.**



TEACHER DO: List the life skills introduced on the board: collaboration, communication, self-management, critical thinking, problem-solving, decision-making, and empathy. Hand out the student books. Allow time for everyone in each group to be involved in the discussion. This is an opportunity for students to practice the Life Skills: Critical Thinking.



STUDENTS DO: Discuss the activities and life skills practiced each day. Focus on *how* each life skill was used.



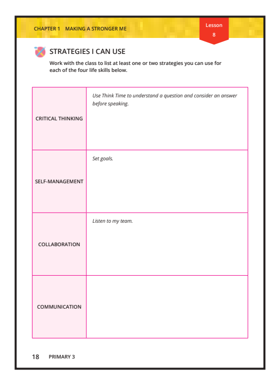
TEACHER SAY: **You have important things to say about your work. Our Share Project is to make a resource for ourselves to help us remember and use the life skills all year long. There will be three parts to this resource: a reference list, personal goals, and a class pledge. Before we begin today, let's review our rubric for the project. Please open your student books to the page My Self-Assessment at the end of this chapter.**

TEACHER DO: Review the structure and content of the rubric to clarify expectations for the Share Project. If any students are unfamiliar with how and why the rubrics are used, ask a student with experience in Primary 2 to explain.

 **STUDENTS DO:** Review and ask any questions.

2. TEACHER SAY: Now that we know the expectations, let's get started on the first part of our project. We have learned a number of strategies throughout this chapter. Let's put these together in a reference list. When we write something down, it helps our brain remember the information. Why else do you think writing a list will help?

 **STUDENTS DO:** Share ideas.


CHAPTER 1 MAKING A STRONGER ME
Lesson 8

STRATEGIES I CAN USE

Work with the class to list at least one or two strategies you can use for each of the four life skills below.

CRITICAL THINKING	*Use Think Time to understand a question and consider an answer before speaking.*
SELF-MANAGEMENT	*Set goals.*
COLLABORATION	*Listen to my team.*
COMMUNICATION	

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TEACHER SAY: Good. If we have a written list, we will also be able to refer back to it throughout the year. Please turn to the next page in your student book, Strategies I Can Use, and read the directions.

STUDENTS DO: Turn to the correct page and read directions.

TEACHER SAY: Our goal today is to record strategies we can use in class and other places as well. As you can see, some strategies are already listed to help us get started. Let's begin working on the page together. Think back about what we have learned about critical thinking. Brainstorm ideas with your Shoulder Partner first, and then we will list strategies together.

TEACHER DO: Allow time for students to share ideas. Next, guide students through **Brainstorm**ing with the whole group. Record strategies on the board. You may choose to ask students to put the strategy in context by referring back to experiences. Once a list has been created, direct students to record at least two more strategies in the table.

 **STUDENTS DO:** Share with **Shoulder Partner** and **Brainstorm** whole group.

TEACHER DO: Continue **Brainstorm**ing with the whole group so a variety of strategies are presented for each life skill. Choose different students to share ideas. Record on the board, observing and assisting students as needed.

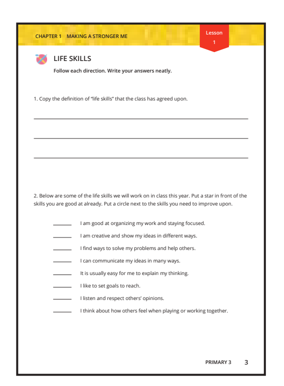
Possible strategies:

- Critical thinking: Look back in student book to help remember what I have already learned. Ask myself, does my answer make sense?
- Self-management: Assess progress toward goals. Be organized in my work.
- Collaboration: Share my ideas and respect others' ideas. Listen. Help someone if needed. Ask for help when needed.
- Communication: Write in complete sentences and ideas. Listen to others. Speak clearly.

STUDENTS DO: Share and record strategies.

3. TEACHER SAY: You all seem to have a good idea of life skills and how to use them. This list will be very helpful throughout the year. Fold up the bottom corner of the page so you can find it easily when you need it. Now, let's work on the second part of our project. We are going to set personal goals for getting stronger. We have already talked a little about goals. Why do you think we should think about goals in our classroom?

 **STUDENTS DO:** Share understanding of how goals help.


CHAPTER 1 MAKING A STRONGER ME
Lesson 1

LIFE SKILLS

Follow each direction. Write your answers neatly.

1. Copy the definition of "life skills" that the class has agreed upon.

____

____

____

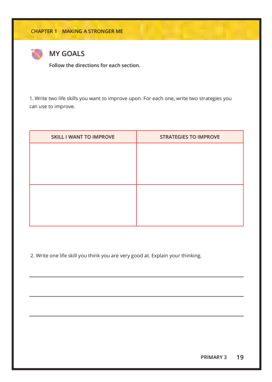
2. Below are some of the life skills we will work on in class this year. Put a star in front of the skills you are good at already. Put a circle next to the skills you need to improve upon.

_____ I am good at organizing my work and staying focused.
_____ I am creative and show my ideas in different ways.
_____ I find ways to solve my problems and help others.
_____ I can communicate my ideas in many ways.
_____ It is usually easy for me to explain my thinking.
_____ I like to set goals to reach.
_____ I listen and respect others' opinions.
_____ I think about how others feel when playing or working together.

PRIMARY 3 3

TEACHER SAY: Earlier in this chapter, we talked about self-management as a life skill. When we decide to improve on something, a goal can help us improve. Let's go back to the very first page in this chapter, Life Skills. Review what you were already good at doing and what you thought you needed to work on in our first lesson.

 **STUDENTS DO:** Review original thoughts about life skills.


CHAPTER 1 MAKING A STRONGER ME

MY GOALS

Follow the directions for each section.

1. Write two life skills you want to improve upon. For each one, write two strategies you can use to improve.

SKILL I WANT TO IMPROVE	STRATEGIES TO IMPROVE

2. Write one life skill you think you are very good at. Explain your thinking.

PRIMARY 3 19

TEACHER DO: When all have finished, direct students to the next page in the student book, My Goals.

TEACHER SAY: **We have all learned a lot since that first lesson. Let's consider the second category again. Let's think together. What are two life skills you want to work on? Share ideas with your Shoulder Partner first.**

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER SAY: **Our first step to getting stronger is identifying what to work on. The second step is setting goals we want to achieve. Today we will set two goals. It is important to have a timeline in mind when you set a goal. We will set goals to reach by [choose a timeframe such as the end of the month or the end of the school term]. What should we think about when setting our own goals?**

TEACHER DO: Encourage discussion. Refer students to the list on the board to help consider life skills in real life contexts.

TEACHER SAY: **Remember, we use strategies to reach our goals. Everyone will have different goals. Think about what you want to improve upon as a Primary 3 learner and what strategies you will use.**

TEACHER DO: Provide your own or a couple generic examples of goals for improving life skills. For example, "I will explain my thinking for at least one question every lesson," or, "I will practice listening to my group members closely when we work together."

After any further discussion, direct students to work independently. Questions to guide student thinking may include:

- Which skills are you already good at?
- Which skills can you improve upon?
- What strategies might you use to improve?
- Who might you ask for help?

Self-Management

This is an opportunity for students to practice the Life Skill: Self-Management.

 **STUDENTS DO:** Work independently to set own goals.

TEACHER DO: Direct students to put away student books as they finish. Have available small cards with students' names on each.

TEACHER SAY: **Let's take time today to compliment a friend in the classroom. When someone gives a compliment to another person, they say something nice about that person. It can be something like, "I like the way you always smile at me in the morning," or, "You share your art supplies with me." Who can share a compliment you have received lately?**

 **STUDENTS DO:** Give other examples.

TEACHER SAY: **I am handing out a card to each of you with another student's name on it. Without talking, write a compliment for that person about how he or she uses a life skill in our class. Then you will join me as we close today's class.**

TEACHER DO: Tell students not to write their own names on the card. Place all the slips of paper in a basket or other container. These will be used to begin the next day.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: **Thank you for your work today. I am excited to see the notes you wrote to your classmates. We will share these tomorrow. I want you to know that I set my goals too. Would you like to hear my goals?**

TEACHER DO: Share your own goals for the next few weeks. Encourage student feedback.

 **STUDENTS DO:** Provide feedback.

Lesson 9 Overview

LEARNING OUTCOMES

Students will:
- Collaborate to create a class pledge.
- Follow an agreed upon process.

PREPARATION

Make certain there is a compliment card for each student. If there is not one for each, complete additional cards so each student receives a card at the beginning of the lesson.

MATERIALS

- Student book
- Pencils
- Crayons

LIFE SKILLS

Learn to Live Together

Respect for Diversity:
- Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.

Empathy:
- Demonstrate empathy in communicating with others.

Sharing:
- Effective management and organization of tasks.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **As we were finishing our last lesson, each of you wrote a compliment to another student. I will hand those out now to each of you.**

 STUDENTS DO: Read cards and share if they choose.

TEACHER SAY: **How did your card make you feel?**

 Empathy

 STUDENTS DO: Share experience. (This is an opportunity for students to practice the Life Skill: Empathy.)

TEACHER DO: Guide discussion of feelings and why complimenting others helps us feel good about ourselves and become stronger.

2. TEACHER SAY: **During our lessons on life skills, I have noticed that you are all becoming stronger students. The name of this chapter is, "Making a Stronger Me." I will choose three more students today to share how they are stronger.**

TEACHER DO: Allow at least 10 seconds before choosing students who did not share in the previous lesson. This is a time to encourage students' self-perception.

 STUDENTS DO: Share what makes them a stronger student.

3. TEACHER SAY: **Let's continue working on our Share Project. Yesterday we created a reference list and a set of personal goals. Today we will work together to make a class agreement or class pledge that we will use all year. We will need everyone's ideas and cooperation. What kind of things do you think a class pledge, or promise, should have in it? What will help us be strong learners and a good team?**

 STUDENTS DO: Share ideas.

TEACHER DO: Begin the process by dividing students into groups of four or five.

TEACHER SAY: **I like your ideas. Our class pledge will remind us to use the life skills we have been learning about. This pledge will help us throughout the school year to work together and become stronger students and citizens. Here is how we will collaborate today: I will ask a question, then you will work with your team to arrive at one response for your group. We will ask one person in each group to give their feedback to the class. Then we will come to a class-wide decision. Are there any questions?**

 **STUDENTS DO:** Ask clarifying questions.

TEACHER SAY: **The first decision we have to make is which three life skills should our class focus on? Talk with your team and choose the top two life skills you think we should work on.**



 **STUDENTS DO:** Choose only three skills. (This is an opportunity for students to practice the Life Skill: Respect for Diversity.)

TEACHER DO: Walk around the classroom, listening to discussions. Ask questions to help students move forward if they have difficulty making a decision. Once all students are ready, write the choices on the board. Ask one person from each group to name the two life skills selected. Add a check mark next to that skill for each vote. If there is no clear decision, have students vote again on the ones with the highest number of votes.

TEACHER SAY: **Our next step is to decide how we want to write our statement. Remember, we all have to agree. Should we focus on strategies? Should we say the life skill and why it is important in class? Talk to your teammates to get some ideas. We will share in a few minutes.**

 Sharing

 **STUDENTS DO:** Think about how to make a statement for everyone. (This is an opportunity for students to practice the Life Skill: Sharing.)

TEACHER DO: Allow for discussion. If you anticipate too much variation in opinion, prepare three example statement formats for students to choose from. Once students have decided the form of the statement, assign the three life skills to groups. There will be more than one group working on each skill. After they have written their statements, guide skill groups to come together to make one statement.

Note to Teacher: Encourage students to look at what is similar about the statements and how they are different. Students should explain their reasoning for each section and how they are different.

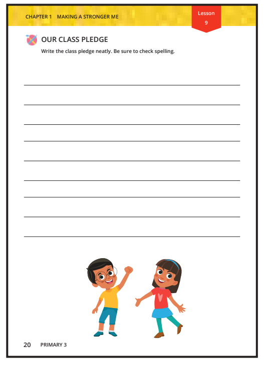
TEACHER SAY: **This is not an easy process but I am proud that you are working together to create this important statement for our class. One person will report to all of us with the skill statement you have decided on. I will write it on the board. The rest of us will listen and think about how the sentences sound together.**

 **STUDENTS DO:** Report, follow along, and consider how the sentences work together.

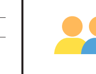
TEACHER DO: At this point, you may have to decide the order of the sentences and whether sentences need to be changed slightly to work together.

TEACHER SAY: **We are almost finished. I think these sentences sound good so far, but we need a little more. Let's add an opening sentence and a closing sentence.**

TEACHER DO: Work whole group, choosing one student to give the opening sentence and another to give the closing sentence. Read the pledge all together and decide if any other changes need to be made. Read pledge together orally.



4. TEACHER SAY: **We did it. Congratulations on working together to create this pledge. It can be difficult to get this many people to agree. Let's open our student book now to the next page, Our Class Pledge. Take time to copy the pledge in your student book. Make certain you spell words correctly and write it neatly.**

 **STUDENTS DO:** Carefully copy pledge. Add a drawing at the bottom of the page if they choose.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Again, thank you for working so well together today. Please turn to the others in your group, say thank you, and tell how they helped you today.

 **STUDENTS DO:** Thank each other.

Lesson 10 Overview

LEARNING OUTCOMES

Students will:
- Collaborate to complete a class pledge.
- Use creativity to show progress as a "stronger me."
- Self-assess understanding of life skills.

MATERIALS

- Student book
- Pencils
- Crayons
- Colored pencils

PREPARATION

Copy the class pledge on paper large enough to post in the room and be seen by all students. Leave room on the paper for students to sign it.

LIFE SKILLS

Learn to Be

Self-Management:
- Review progress in realizing goals.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: Today is the last lesson in our first chapter, "Making a Stronger Me." We started the third part of our Share Project, the class pledge, in the last lesson. Who would like to share their thoughts about how our class pledge will help us learn together? I will choose someone with a raised hand.

TEACHER DO: Allow time to think and then choose students with raised hands. Allow three or four students to share. Prepare to show the class pledge prepared prior to class.

 **STUDENTS DO:** Share ideas.

2. TEACHER SAY: I have rewritten the class pledge so we will be able to remember it. Let's talk about what it means to pledge something. This time I will use Calling Sticks for this discussion.

TEACHER DO: Share poster of pledge. Choose three students with **Calling Sticks**.

 **STUDENTS DO:** Explain understanding of a pledge.

TEACHER SAY: I like your explanations. Some people think of a pledge as a contract or a promise. Later today, I will call you over to sign the pledge. Each of us will sign it to promise to do our best to work together as friends and as a class. I will sign it too. But first, we have something else to do.

TEACHER DO: Post pledge where all students can see it.

TEACHER SAY: We want to be able to remember our promise, so let's plan to say our pledge together once a week. We will decide exactly when later, but I think it would be fun to create some movements to go with it. Can anyone think of a time hand or body movements helped you remember something?

TEACHER DO: Choose students who can share experiences. Think of songs, poems, movies, or other places you may have seen hand or body movements. For example, making a heart with fingers or waving a finger to say no.

STUDENTS DO: Share experiences.

3. TEACHER SAY: These are all good examples. Let's see what hand or body movements we can use that will help us remember the pledge.

TEACHER DO: Add movements to the sentences that address life skills. Each sentence can have one to three movements, depending on the content and length of the sentence. Practice reciting the pledge whole group with each movement. Once the first sentence is finished, continue the process until movements have been created for the main section of the pledge.

STUDENTS DO: Suggest and agree on movements.

4. TEACHER SAY: Well done. Do you think we are ready to say the whole pledge together?

TEACHER DO: Invite all students to the front of the room or to an area where everyone can stand together. Consider a large circle where students can see each other in case movements or sentences are forgotten. Consider also visiting another Primary 3 classroom or a younger classroom to share and explain the class pledge as a model for other students and classrooms.

STUDENTS DO: Recite the pledge with movements at least two or three times.

TEACHER SAY: Please congratulate each other on a job well done, then return to your seats. Take out your student book.

STUDENTS DO: Congratulate each other and take out student books.

5. TEACHER SAY: We are going to end the chapter with an opportunity to continue being creative. You were creative in writing the pledge and making movements to accompany it. Now you get to be creative in your own way. Turn to the next page in your student book, A Stronger Me. Read the directions to yourself as we all get ready.

STUDENTS DO: Read and begin thinking about what they might do to be creative.

TEACHER SAY: Who would like to share what you are thinking right now?

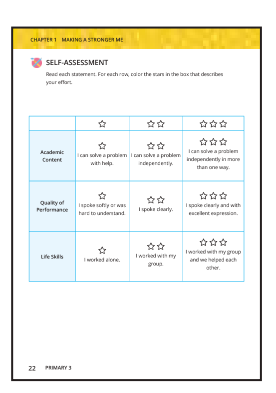
TEACHER DO: Allow students to start sharing ideas of what they might do. Let students know what supplies are available to them to complete the page. Be sure to share a few ideas for those who may have difficulty getting started.



STUDENTS DO: Share ideas.

TEACHER SAY: While you are working on this page, I will call you over to sign our pledge. It is usually best to work quietly when we are being creative. I am excited to see your ideas.

TEACHER DO: As students work, make certain everyone gets a chance to sign the pledge. Encourage students as they work. If students struggle with the assignment, encourage them to talk quietly with classmates. As students finish, encourage them to share with others who have completed the work as well.



CHAPTER 1 MAKING A STRONGER ME

SELF-ASSESSMENT

Read each statement. For each row, color the stars in the box that describes your effort.

	☆	☆☆	☆☆☆
Academic Content	☆ I can solve a problem with help.	☆☆ I can solve a problem independently.	☆☆☆ I can solve a problem independently in more than one way.
Quality of Performance	☆ I spoke softly or was hard to understand.	☆☆ I spoke clearly.	☆☆☆ I spoke clearly and with excellent expression.
Life Skills	☆ I worked alone.	☆☆ I worked with my group.	☆☆☆ I worked with my group and we helped each other.

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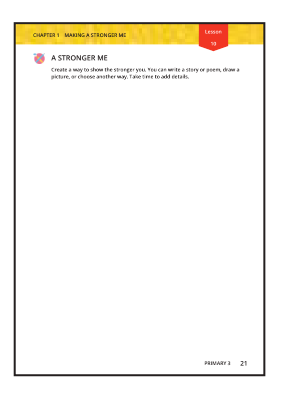
STUDENTS DO: Complete the creative project.

6. TEACHER SAY: Let's finish up this chapter by completing our self-evaluation. Turn to the next page in your student book, Self-Assessment. We will go through the evaluation step by step together.

TEACHER DO: Read each statement and guide students to think about their best answer.



STUDENTS DO: Follow along and complete the student page. (This is an opportunity for students to practice the Life Skill: Self-Management.)


CHAPTER 1 MAKING A STRONGER ME

Lesson 10

A STRONGER ME

Create a way to show the stronger you. You can write a story or poem, draw a picture, or choose another way. Take time to add details.

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TEACHER DO: If time remains, use **Hands Up, Pair Up** to share the A Stronger Me pages. When completed, have students put away the student books.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: **Let's end today by having everyone stand to recite the pledge together.**

 **STUDENTS DO:** Stand and recite the class pledge.

Rubric Assessment (for teacher use)

	Approaching Expectation (1)	Meeting Expectation (2)	Exceeding Expectation (3)
Academic Content	Participates minimally in discussions with others by contributing ideas, listening, or asking questions. *Speaking and Listening A.1.b*	Participates in discussions with others by contributing ideas, listening, and asking questions. *Speaking and Listening A.1.b*	Participates in discussions with others by contributing original ideas, listening attentively, and asking thoughtful questions. *Speaking and Listening A.1.b*
	Defines life skills and offers examples with help from teacher or peers. *Reading G.1.a,f*	Defines life skills accurately and offers examples. *Reading G.1.a,f*	Defines life skills accurately and offers personally relevant examples. *Reading G.1.a,f*
Quality of Performance	Cooperates with classmates when reminded or supported by teacher to create a class pledge. *Vocational Fields A.1.b*	Cooperates with classmates to create a class pledge. *Vocational Fields A.1.b*	Cooperates with classmates to create a class pledge and serves as a leader, encouraging others to participate. *Vocational Fields A.1.b*
	Listens to classmates in collaborative discussions when reminded or supported by teacher. *Speaking and Listening A.1.e.*	Listens to classmates in collaborative discussions in order to understand other's ideas. *Speaking and Listening A.1.e.*	Listens to classmates in collaborative discussions in order to understand, clarify points, or make connections to other's ideas. *Speaking and Listening A.1.e.*
Life Skills	Sets a goal and offers one strategy to help achieve it with help from the teacher or peers. *Self-management*	Sets a goal and independently offers at least one strategy to help achieve it. *Self-management*	Sets a goal and independently offers multiple realistic strategies to help achieve it. *Self-management*
	Uses general statements to explain own ideas when discussing them with others. *Critical thinking*	Uses appropriate details to support own ideas when discussing them with others. *Critical thinking*	Uses appropriate details and can answer questions to support own ideas when discussing them with others. *Critical thinking*

PRIMARY 3

Multidisciplinary

WHO AM I?

LIVING HEALTHY

Chapter 2: Making a Healthy Body

Chapter Overview

Making a Healthy Body

COMPONENT	DESCRIPTION	LESSONS
Discover	Students explore how we use our bodies. Students discover habits that keep our bodies healthy and working properly.	2
Learn	Students identify the function of specific parts of the body (such as the skin provides protection). Students explore the importance of taking care of our bodies so that the parts and organs work properly.	6
Share	Students author and illustrate a book for younger students about the human body parts and their functions.	2

Connection to Issues



Health and Population: We need to stay healthy. We can learn to improve our nutrition, health, and fitness. We are learning about our growing world population.

Life Skills Addressed



DIMENSION	DESCRIPTION
Learn to Know	**Critical Thinking:** • Identify subject/topic-related information. • Explain thinking processes.
Learn to Work	**Collaboration:** • Respect for other opinions. **Decision-Making:** • Identify results and expected results.
Learn to Live Together	**Sharing:** • Effective management and organization of tasks.
Learn to Be	**Self-Management:** • Review progress in realizing goals. **Accountability:** • Provide effective feedback. **Communication:** • Reading, writing, non-verbal communication skills.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

D. Reading Skills: Fluency

1.a. Read texts at grade-appropriate difficulty with a level of accuracy and fluency to support understanding.
1.c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

E. Reading Comprehension: Literature

1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
1.b. Describe and compare characters in a story (such as their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.
2.a. Determine the central message or lesson of a text and explain how it is conveyed through key details.

F. Reading Comprehension: Informational Text

1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
4.a. Ask and answer questions to define the meaning of academic and subject-specific words and phrases.
5.a. Use text features (such as headings, subheadings, text color, table of contents) to locate information relevant to a given topic efficiently.
5.b. Use visual representations and information contained in a text to describe its basic ideas.

G. Language: Vocabulary Acquisition and Use

1.g. Demonstrate command of the conventions of grammar and usage when writing or speaking.

WRITING:

A. Foundational Skills

1.a. Write complete sentences using punctuation, prepositions, and coordinating conjunctions (such as و, ثم, ف) as appropriate.

C. Informational and Opinion

1.a. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

D. Process, Production, and Research

1.b. Utilize questions and suggestions from peers to strengthen writing.
1.c. Review and revise personal writing to strengthen it.

SPEAKING AND LISTENING:

A. Foundational Skills

1.a. Engage effectively in a range of collaborative discussions with peers and adults in small and larger groups.
1.b. Follow agreed-upon rules for discussions.
1.c. Listen to the speaker with interest and attention until the end of the statement or story.
1.e. Listen to speakers in order to make connections; comprehend; and gain, clarify, or deepen understanding of a topic or issue.
1.f. Build on others' ideas in discussion and express own ideas clearly.
2.a. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details.
4.a. Speak clearly and at an understandable pace with appropriate tone, gestures, and body language.
5.a. Speak in complete sentences, following grammatical rules, in order to provide requested detail or clarification.

MATH:

C. Numbers and Operations in Base Ten

1.a. Read and write numbers to 100,000 using numerals and expanded form.

SCIENCE:

A. Skills and Processes

1.a. Ask questions that can be investigated using simple tests.
1.c. Represent data in tables to reveal patterns.
1.d. Construct an explanation with evidence (such as observations, patterns) and/or data.
1.f. Listen actively to arguments and indicate agreement or disagreement based on evidence.
1.g. Communicate information with others in oral and written forms.

C. Life Science

1.a. Identify external and internal parts and functions of the human body (such as skin provides protection, heart pumps blood, stomach digests food).
1.b. Explain the connection between healthy behaviors and personal health (such as exercise can keep hearts healthy).

VISUAL ART:

A. Producing Visual Art

2.c. Add details to work of art to enhance what is communicated.

B. Presenting Visual Art

1.b. Describe what a personal piece of art is intended to express.
1.c. Create and explain works of art that express content learned in other curricular areas.

ECONOMICS AND APPLIED SCIENCES:

C. Nutritional Health and Food Science

1.b. Describe negative consequences of eating too much sugar or fat.

VOCATIONAL FIELDS:

A. Career Social Skills and Preparation

1.a. Identify and demonstrate good interpersonal skills at school and home (including in different vocational activities).
1.b. Work cooperatively with a group of students to accomplish a task (including tasks related to vocations).

INFORMATION AND COMMUNICATION TECHNOLOGIES:

C. Technological Production Tools

1.c. Identify the appropriate program or application to complete a task.

2.a. Use a variety of tools to create digital products that use text and various forms of graphics, audio, and video to communicate ideas and information to peers.

COMPUTATIONAL THINKING:

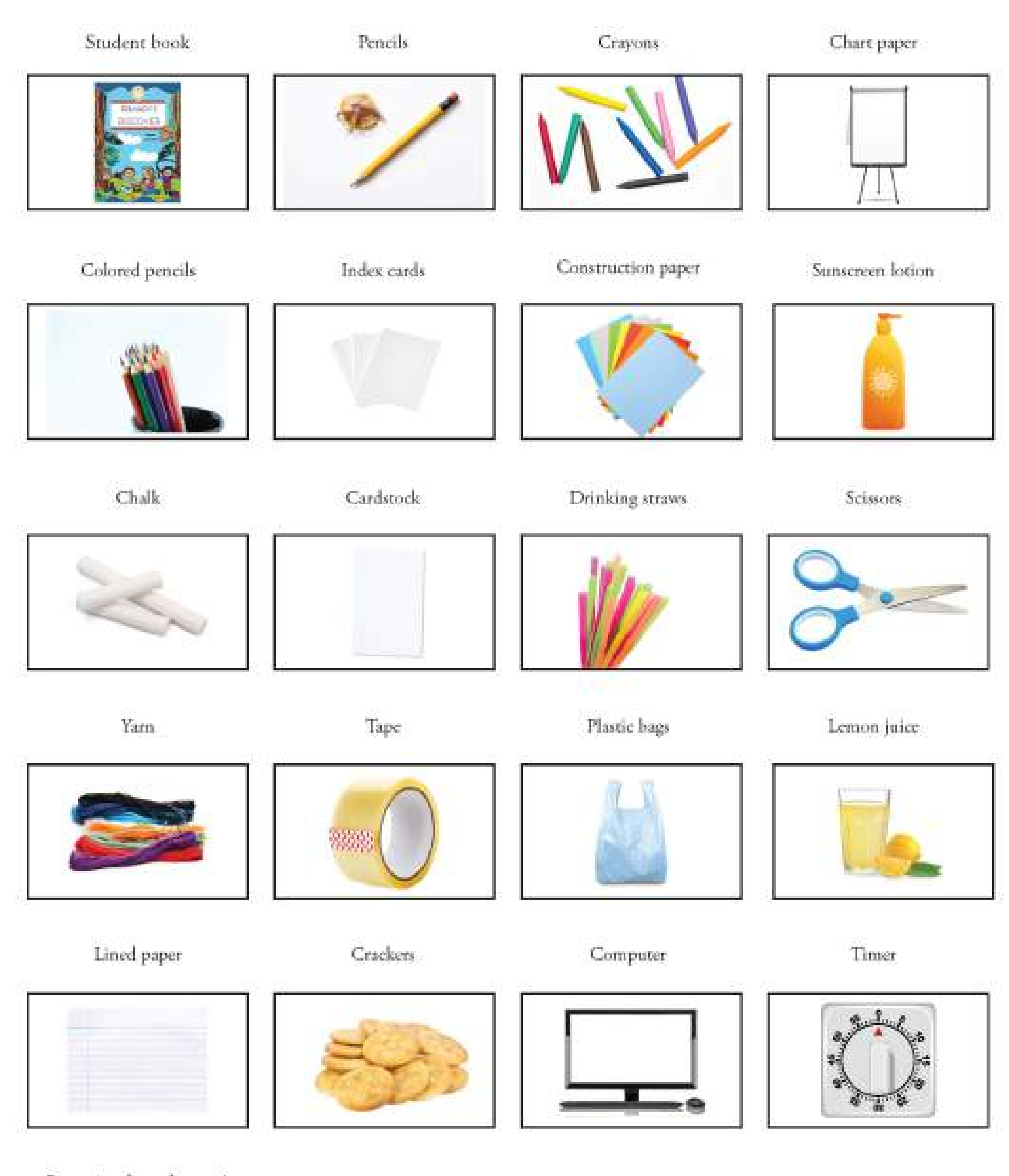
Math:

C.1.c. Identify arithmetic patterns, including those in addition and multiplication fact families.

CH 2 Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	**DISCOVER: Students will:** • Discover what it means to have a healthy body. • Contrast healthy and unhealthy habits. • Set a goal for making healthy choices.
2	**DISCOVER: Students will:** • Identify and track healthy habits over time. • Create an energizing classroom activity for when students need a break.
3	**LEARN: Students will:** • Discover how skin is protection. • Conduct an experiment to test the effect of sunscreen on skin.
4	**LEARN: Students will:** • Identify how bones and muscles work together in the body. • Build a model of a finger that can move.
5	**LEARN: Students will:** • Discover what happens to food when it is eaten. • Build a model of the stomach digesting food.
6	**LEARN: Students will:** • Identify important facts within written text. • **Model** movement of blood through the body. • Create a poem about the heart.
7	**LEARN: Students will:** • Learn how to measure pulse and record heart rate data. • Test hypotheses about the impact of exercise on heart rate. • Analyze test results.
8	**LEARN: Students will:** • Review learning through a group reflection. • Identify the steps of the writing process. • Collaborate to determine individual responsibilities within a group.
9	**SHARE: Students will:** • Collaborate to write a story about health. • Utilize the writing process to organize writing. • Peer edit writing.
10	**SHARE: Students will:** • Complete the writing process with a final rewrite. • Speak confidently when sharing. • Reflect and self-assess quality of work and use of life skills.

Materials Used



Strategies chart chapter 1

Lesson 1 Overview

LEARNING OUTCOMES

Students will:
- Discover what it means to have a healthy body.
- Contrast healthy and unhealthy habits.
- Set a goal for making healthy choices.

PREPARATION

Create two charts for taking notes on student discussions. Title one chart “Healthy Habits” and the other “Unhealthy Habits.” Hang these where all students can see.

KEY VOCABULARY

- Habit

LIFE SKILLS

Learn to Be

Self-Management:
- Review progress in realizing goals.

MATERIALS

- Student books
- Pencils
- Crayons
- Chart paper
- Life skills strategies chart from Chapter 1



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today’s lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter.

TEACHER SAY: In our last theme, we learned a lot about “Making a Stronger Me” by practicing the life skills we need to work well and play well together. We also explored different strategies for getting along and handling difficult situations. What strategies have you used recently while working with your classmates? Let’s use Think Time, then share with a Shoulder Partner.

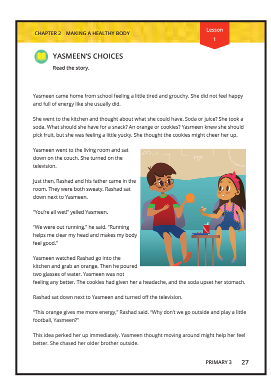
 **STUDENTS DO:** Use **Think Time**, then share strategies used.

TEACHER DO: Display the charts of life skill strategies made during Chapter 1.

TEACHER SAY: When we think about keeping our class healthy, we know it is important to have healthy strategies for working and playing together. Today we are starting a new chapter named “Making a Healthy Body.” We will be learning about strategies to keep our bodies healthy. At the end of our chapter, we will share what we learn with younger students or siblings. Our Share Project will be to create a book to teach others about how we can keep parts of our body healthy. What do you think we need to learn in order to write this book?

 **STUDENTS DO:** Share ideas.

TEACHER DO: Expand the discussion to discover what students already know about keeping their bodies healthy. Some questions to extend student thinking are included below. This preliminary discussion serves as an assessment of prior knowledge.
- How does your body help you work and play?
- What food choices can you make to be healthy?
- Imagine you did not eat any fruits or vegetables for a week. How would your body feel?
- How does your body feel when you exercise?



CHAPTER 2 MAKING A HEALTHY BODY

Lesson 1

YASMEEN'S CHOICES

Read the story.

Yasmeen came home from school feeling a little tired and grouchy. She did not feel happy and full of energy like she usually did.

She went to the kitchen and thought about what she could have. Soda or juice? She took a soda. What should she have for a snack? An orange or cookies? Yasmeen knew she should pick fruit, but she was feeling a little yucky. She thought the cookies might cheer her up.

Yasmeen went to the living room and sat down on the couch. She turned on the television.

Just then, Rashad and his father came in the room. They were both sweaty. Rashad sat down next to Yasmeen.

"You're all wet!" yelled Yasmeen.

"We were out running." he said. "Running helps me clear my head and makes my body feel good."

Yasmeen watched Rashad go into the kitchen and grab an orange. Then he poured two glasses of water. Yasmeen was not feeling any better. The cookies had given her a headache, and the soda upset her stomach.

Rashad sat down next to Yasmeen and turned off the television.

"This orange gives me more energy," Rashad said. "Why don't we go outside and play a little football, Yasmeen?"

This idea perked her up immediately. Yasmeen thought moving around might help her feel better. She chased her older brother outside.

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2. TEACHER SAY: We have a new story to read about Yasmeen and Rashad to get us thinking about making healthy choices. Turn to the first page in the chapter, Yasmeen's Choices. Please read the story to yourself as we read it aloud in class together.

TEACHER DO: Choose students to read out loud, one sentence or one paragraph at a time. Remind students to read with emotion.



STUDENTS DO: Read story.

TEACHER DO: Lead a discussion on the story to ensure student understanding and practice reading strategies, such as citing the text when answering questions and comparing characters. Questions could include:

- Yasmeen and Rashad choose different snacks and drinks. How did each choice make them feel?
- What activity did Rashad do after school? How did it make him feel?
- What is Rashad's idea for helping Yasmeen feel better?



STUDENTS DO: Analyze the text and share ideas.

3. TEACHER SAY: You are becoming strong readers. Yasmeen and Rashad had several choices to make. They each chose an activity, a drink, and a snack. What they did and ate affected the way they felt. Who made healthy choices that made them feel good?



STUDENTS DO: Share ideas.

TEACHER SAY: What do you think Yasmeen learned in this story? What is the main idea?



STUDENTS DO: Share ideas.

TEACHER SAY: We all make choices like this every day. When we make similar choices over and over again, we call them HABITS. There are many habits we can make that will keep us healthy and feeling good. Getting exercise like Rashad is one healthy habit. What are some other healthy habits we can choose? Let's Brainstorm.



STUDENTS DO: Brainstorm ideas.

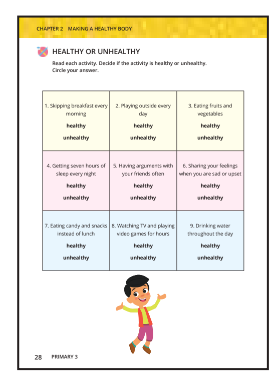
TEACHER DO: Display a chart paper with the title "Healthy Habits." Use **Calling Sticks** to choose students to share. Record students' ideas on the chart paper. Examples of healthy habits include brushing teeth, washing hands, drinking milk, eating fruits and vegetables, getting enough sleep, staying active, and so on.

TEACHER SAY: Thank you for all of your good ideas. There are many habits we can make that will NOT keep us healthy and feeling good. Eating sugary cookies for a snack like Yasmeen would be an unhealthy habit if she did it every day after school. What are some other unhealthy habits we can choose?



STUDENTS DO: Brainstorm ideas.

TEACHER DO: Display another chart paper with the title "Unhealthy Habits." Record students' ideas on the chart paper. Examples of unhealthy habits include not washing hands after going to the bathroom, playing video games instead of exercising, eating lots of candy, and so on.



CHAPTER 2 MAKING A HEALTHY BODY

HEALTHY OR UNHEALTHY

Read each activity. Decide if the activity is healthy or unhealthy. Circle your answer.

1. Skipping breakfast every morning **healthy** **unhealthy**	2. Playing outside every day **healthy** **unhealthy**	3. Eating fruits and vegetables **healthy** **unhealthy**
4. Getting seven hours of sleep every night **healthy** **unhealthy**	5. Having arguments with your friends often **healthy** **unhealthy**	6. Sharing your feelings when you are sad or upset **healthy** **unhealthy**
7. Eating candy and snacks instead of lunch **healthy** **unhealthy**	8. Watching TV and playing video games for hours **healthy** **unhealthy**	9. Drinking water throughout the day **healthy** **unhealthy**

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4. TEACHER SAY: This is a great list. You all worked very well together to brainstorm ideas as a class. Now let's make sure we individually understand these ideas. Please turn in your student book to the page Healthy or Unhealthy. It is your turn to decide if a habit is healthy or unhealthy. Work on your own to read the directions and complete the page.

TEACHER DO: Allow time for students to complete the page. This can be used as a formative assessment. Support students as appropriate. You may wish to review the page as a class before moving on to the next step.

TEACHER SAY: Sometimes we make choices without considering whether they are healthy or unhealthy. Yasmeen made choices based on how she was feeling instead of what would be

healthy. You used good critical thinking skills to decide which habits were healthy and which were unhealthy. Let's look back at our list of healthy habits. What do you think happens to our bodies when we choose these healthy habits? Please discuss your ideas with your Shoulder Partner. Think about how you would feel if you did the healthy habits listed every day.

TEACHER DO: Display the chart paper listing healthy habits for students to reference.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER SAY: Very good. Please share some of your ideas with the class of what happens to you when you practice healthy habits.

TEACHER DO: Choose a student to start the discussion, and then **Popcorn** to encourage more ideas. As students share ideas, list them next to the healthy habits on the chart paper. For example, we feel good, are happier, have more energy to play, get sick less often, or concentrate and study better.

 **STUDENTS DO:** **Popcorn** ideas for the effects of healthy habits.

TEACHER SAY: These are very good ideas. We can see that making choices to practice healthy habits every day will make us feel better. We will be able to work and play together better as well.

5. TEACHER DO: Display a new blank chart paper.

TEACHER SAY: It may be difficult to remember all of the great healthy habits we listed. We can think about these habits as strategies for staying healthy, just like we learned about strategies in the last chapter. We will focus on four main strategies, or healthy habits:

- **Get enough sleep**
- **Stay positive and calm**
- **Stay active**
- **Eat well**

Doing these every day will help to make a healthy mind and body.

TEACHER DO: Write each habit on the blank chart paper. Keep this list up as students complete the next page in the student book.

6. TEACHER SAY: Thank you for working hard to identify healthy habits. It is important to be able to name healthy habits, but it is even more important to DO the habits. We know that goals can motivate us and help us stay focused on a change we want to make. Let's set some goals for the healthy habits we would like to work on this week. Please turn in your student books to the page My Choices. Read and follow the directions.

TEACHER DO: Give students ample time to identify a few healthy choices they want to make this week. Remind students that they can refer to the lists of healthy habits if they need to.



 **STUDENTS DO:** Read and follow the directions. (This is an opportunity for students to practice the Life Skill: Self-Management.)

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Everyone has been working very hard today, learning about making choices that will make our bodies healthy. As we finish for the day, please share your goals with your Shoulder Partner. Explain the choices you are going to make this week. Describe what you predict will happen when you make those choices. Listen carefully to each other.

 **STUDENTS DO:** Explain choices and predictions to **Shoulder Partner**.

TEACHER DO: Walk around and listen to students as they explain choices and predictions. Encourage students to provide reasoning for the predictions they make.

TEACHER SAY: Thank you for all of your hard work today. In our next lesson, we will learn more about healthy habits and create ways to stay active.

Lesson 2 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify and track healthy habits over time. • Create an energizing classroom activity for when students need a break.	• Brain break • Energy	• Student books • Pencils • Crayons • Index cards

LIFE SKILLS

Learn to Be

Communication:

- Reading, writing, non-verbal communication skills.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **Yesterday, we talked about habits that are healthy and habits that are unhealthy. What are some of the healthy habits we discussed?**

TEACHER DO: Use Calling Sticks to choose students to review the healthy habits discussed yesterday. Students may also share the goals they set at the end of the lesson.

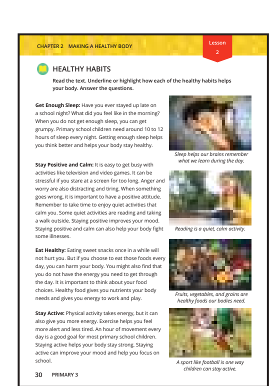


STUDENTS DO: Share ideas.

2. TEACHER SAY: **Why do you think it is important to make these healthy choices every day?**



STUDENTS DO: Share ideas.



CHAPTER 2 MAKING A HEALTHY BODY — Lesson 2

HEALTHY HABITS

Read the text. Underline or highlight how each of the healthy habits helps your body. Answer the questions.

Get Enough Sleep: Have you ever stayed up late on a school night? What did you feel like in the morning? When you do not get enough sleep, you can get grumpy. Primary school children need around 10 to 12 hours of sleep every night. Getting enough sleep helps you think better and helps your body stay healthy.

Sleep helps our brains remember what we learn during the day.

Stay Positive and Calm: It is easy to get busy with activities like television and video games. It can be stressful if you stare at a screen for too long. Anger and worry are also distracting and tiring. When something goes wrong, it is important to have a positive attitude. Remember to take time to enjoy quiet activities that calm you. Some quiet activities are reading and taking a walk outside. Staying positive improves your mood. Staying positive and calm can also help your body fight some illnesses.

Reading is a quiet, calm activity.

Eat Healthy: Eating sweet snacks once in a while will not hurt you. But if you choose to eat those foods every day, you can harm your body. You might also find that you do not have the energy you need to get through the day. It is important to think about your food choices. Healthy food gives you nutrients your body needs and gives you energy to work and play.

Fruits, vegetables, and grains are healthy foods our bodies need.

Stay Active: Physical activity takes energy, but it can also give you more energy. Exercise helps you feel more alert and less tired. An hour of movement every day is a good goal for most primary school children. Staying active helps your body stay strong. Staying active can improve your mood and help you focus on school.

A sport like football is one way children can stay active.

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TEACHER SAY: **Let's learn a little more about the benefits of these healthy habits. Please turn in your student books to Healthy Habits. Before we start reading, let's orient ourselves to the page. What do you notice about this reading that looks different from stories we usually read in our student books?**

TEACHER DO: Call on three or four students to share observations about the page. They should identify that the paragraphs are broken up, some paragraphs have subheadings, and the pictures have captions.

TEACHER SAY: **Yes, one thing you can see are words with bold print. Point to an example of that on your page. This is called a SUBHEADING. These words tell you what you are about to read about. I see the words, "get enough sleep." This tells me that the paragraph below will teach me information about sleep as a healthy habit. Who can find another subheading?**



STUDENTS DO: Identify STAY POSITIVE AND CALM, EAT HEALTHY, and STAY ACTIVE as other subheadings.

TEACHER SAY: **I notice a connection between the subheadings and the title of the article. Who can find the connection I see?**



STUDENTS DO: Share ideas (each subheading is an example of a healthy habit).

TEACHER SAY: You are very observant. Each of the middle paragraphs gives us details about one healthy habit. Now, point to a picture. The sentence below the picture is a CAPTION. Captions give us information about what you can see in the picture. Turn to your Shoulder Partner and discuss how the caption under the first picture focuses your attention on the first section of the reading.

 STUDENTS DO: Turn and talk with **Shoulder Partner**.

TEACHER SAY: These text features, such as subheadings, images, and captions, in a nonfiction text can help us find important information easily. Now that we are familiar with the format of the article, let's read the directions above it.

 READ ALOUD: **Read the text. Underline or highlight how each of the healthy habits helps your body. Answer the questions.**

Note to Teacher: The following work can be done individually, completed in partners, or read together as a whole class.

TEACHER DO: Read the first paragraph and image caption together. Identify how getting enough sleep helps you think better and helps your body stay healthy. **Model** how you would highlight this information.

TEACHER SAY: Now, continue reading the article, highlighting how each of the healthy habits helps your body.

 STUDENTS DO: Read the article, locating and highlighting how each healthy habit helps the body.

TEACHER DO: After students have completed reading and highlighting, use **Calling Sticks** to have students share the examples they found of how each habit helps the body. Ask students to identify which section the information is in (under which subheading) so that other students can easily locate the same information. Chart student answers at the front of the room.

3. TEACHER SAY: Thank you for persevering through reading this passage. We learned a lot about how these habits help our bodies. On the next page in your student book, there are some questions that will help you process and remember what you read. Read and answer the questions. You may either work with your Shoulder Partner if both partners want to, or you may work on your own.

 STUDENTS DO: Answer the questions about the passage.

TEACHER DO: Give students time to finish writing. While they are working, circulate around the room to assist if students are having difficulty.

4. TEACHER SAY: In our previous lesson, we learned what a habit is. Who can remind us what that word means?

TEACHER DO: Use **Calling Sticks** to choose students until the correct answer is given (things we choose to do on a regular basis).

TEACHER SAY: Very good. Yes, a habit is a choice we make every day or regularly. One way to help build a pattern of making good choices is to use a habit tracker. A habit tracker is a chart where you list your goals and you check off when you have completed them each day or each week. Please turn in your student book to the page Healthy Habits Tracker. Read the directions to yourself and then follow those directions.

STUDENTS DO: Read and follow directions in student book.

TEACHER SAY: You will have a chance to revisit the tracker each day to check off the habits you are choosing to keep your body healthy.

5. TEACHER DO: Display a blank chart paper.

TEACHER SAY: One of our healthy habits is staying active. Let's explore this habit more today to see what we can discover. We will start with what you already know and do. What are some of your favorite physical activities?

TEACHER DO: Choose a student to start a **Popcorn** discussion. Allow all ideas. Record students' ideas on chart paper as they share.

 **STUDENTS DO: Popcorn** to share ideas.

TEACHER SAY: You have so many ideas for how to stay active. What are the benefits of these activities? Why is physical activity important for making our bodies healthy? Turn to your Shoulder Partner and share your ideas.

TEACHER DO: Give students ample time to discuss ideas with each other.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER SAY: Let's share some ideas that you have discussed with your Shoulder Partner about how physical activity keeps our bodies healthy.

TEACHER DO: Lead a discussion that encourages students to think about how being active is one of the best things they can do to keep their bodies strong and healthy. Discuss the following key ideas about physical activity:

- It is recommended that we do at least 60 minutes of physical activity every day.
- Physical activity keeps your heart healthy, strong, and more efficient.
- Physical activity helps to give you the energy you need to work and play all day.

 **STUDENTS DO:** Share ideas.

6. TEACHERS SAY: Thank you for sharing all of your ideas. It is so important to keep your body moving throughout the day. However, this might be challenging when you are at school. How do you feel after you have been sitting at a desk for a long time? Raise your hand if you can share how you feel.

TEACHER DO: Choose students with raised hands until all ideas are given.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: We work our brains very hard during the school day. It is important for us to give our brains a break and get our bodies moving. Getting up and moving is a great way to get a boost of energy. Let's think about how we can stay active while we are at school. To help get us thinking creatively, we are going to do an activity called Imagine That. I will describe an animal for you to act out. You will imagine that you are the animal and act out the sentence.

TEACHERS DO: Use a few of the following scenarios for students to act out:

- A seabird diving for a fish.
- A monkey swinging from tree to tree.
- An antelope running away from a predator.
- A camel carrying supplies through the desert.
- A snake climbing a tree.
- A lion hunting a zebra.

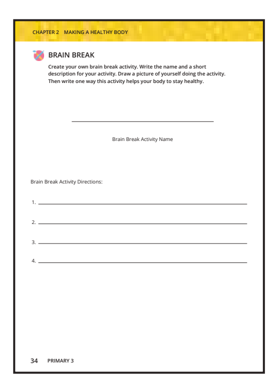
You may also create your own scenarios for animals commonly found in your area.

TEACHER SAY: You were all such active animals. Now that you got a boost of energy, work with others at your table to come up with another animal action we can imitate. The action should get us moving or help us get a good stretch.

 **STUDENTS DO: Brainstorm** new animal movements.



TEACHER DO: Allow ample time for groups to decide on another example. Then call on groups to share ideas and record them on the board. This is an opportunity for students to practice the Life Skill: Communication.


CHAPTER 2 MAKING A HEALTHY BODY

BRAIN BREAK

Create your own brain break activity. Write the name and a short description for your activity. Draw a picture of yourself doing the activity. Then write one way this activity helps your body to stay healthy.

Brain Break Activity Name

Brain Break Activity Directions:

1.
2.
3.
4.

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7. TEACHER SAY: Thank you for those new ideas. We have many wonderful examples of how we can be active animals. You are all so creative. I would love to have some of your ideas on how else we can create a movement break. It is your turn to create some activities we can use throughout the chapter. Please turn in your student books to the page Brain Break. Read the directions silently as I read them aloud.



READ ALOUD: Create your own brain break activity. Write the name and a short description for your activity. Draw a picture of yourself doing the activity. Then write one way this activity helps your body to stay healthy.

TEACHER SAY: Maybe your activity will be acting out picking oranges from a tree while skip counting by 2s to 20. Maybe you want to shake hands with three students while giving them a compliment. Maybe you want to suggest a new animal for an active animal brain break. The important thing to keep in mind with your design is that the brain break should be fun and should include movement. A mental challenge, like counting, can be added as a bonus.



STUDENTS DO: Create a brain break activity.

TEACHER DO: As students work, walk around to assist as needed.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Everyone has been working very hard today, thinking about how we can stay active throughout the day. This activity is an important healthy habit to do every day. As we finish for the day, please share your brain break activity with your Shoulder Partner. Explain how to do the activity and how your activity helps our bodies to stay healthy. Listen carefully to each other.





STUDENTS DO: Explain brain break activities to **Shoulder Partner**. (This is an opportunity for students to practice the Life Skill: Communication.)

TEACHER DO: Walk around and listen as students explain activities. Compliment students for creativity and clear explanations.

TEACHER SAY: Thank you for all of your creativity today. In our next lesson, we will begin to explore how different parts of our bodies help us to work and play.

Lesson 3 Overview

LEARNING OUTCOMES

Students will:
- Discover how skin is protection.
- Conduct an experiment to test the effect of sunscreen on skin.

PREPARATION

Arrange supplies for the experiment "Protecting Our Skin." Ideally, students can work in pairs or small groups, but you may choose to demonstrate (with student assistance) for the entire class.

KEY VOCABULARY

- Diagram
- Organ
- Skin
- Sunscreen

MATERIALS

- Student books
- Pencils
- Crayons
- Index cards
- Black or dark blue construction paper
- Sunscreen lotion or spray
- White crayon or chalk

LIFE SKILLS

Learn to Know	Learn to Live Together	Learn to Be
Critical Thinking: • Identify subject/topic-related information. • Explain thinking processes.	Sharing: • Effective management and organization of tasks.	Communication: • Reading, writing, non-verbal communication skills.



Learn (90 minutes)

Directions

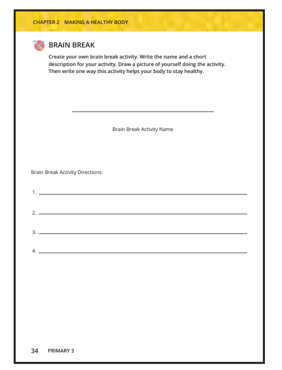
1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **Before we begin today's lesson, find the Healthy Habits Tracker in your student book and mark your progress. When your Shoulder Partner is ready, share your successes with each other.**



STUDENTS DO: Record progress.

TEACHER SAY: **I hear some of you talking about the good choices you have made. In our last lesson, we talked about how staying active is an important healthy habit. Everyone also created their own brain break. We are going to use those brain breaks each day to give us a boost of energy. Please turn in your student books to the page you completed yesterday, Brain Break.**



CHAPTER 2 MAKING A HEALTHY BODY

BRAIN BREAK

Create your own brain break activity. Write the name and a short description for your activity. Draw a picture of yourself doing the activity. Then write one way this activity helps your body to stay healthy.

Brain Break Activity Name

Brain Break Activity Directions:

1.
2.
3.
4.

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TEACHER DO: Give one index card to each student.

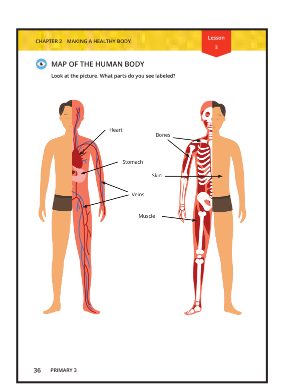
TEACHER SAY: **Write your name on the index card. Then write the name of your brain break on the card. During each lesson, we will pick a card. When a card is pulled, the student who made the brain break will teach the movement to the class.**



STUDENTS DO: Write brain break activity names on index cards.

TEACHER DO: As students finish writing, collect the index cards. Randomly select a card and have that student lead the class in doing the movement. Repeat this at the beginning of each lesson. Then, perform the brain break again in the middle of the lesson when you think students need a break.

STUDENTS DO: Follow along as a student leads the class in doing one of the brain breaks.


CHAPTER 2 MAKING A HEALTHY BODY

Lesson 3

MAP OF THE HUMAN BODY

Look at the picture. What parts do you see labeled?

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2. TEACHER SAY: Now that we have a boost of energy, we are going to take a closer look at the human body. Let's start with the big picture, then we will learn about some of the parts. Please turn in your student books to the page Map of the Human Body. Look carefully at the picture. How does this picture of the body look different than what we can see in real life?


STUDENTS DO: Share ideas.

TEACHER SAY: Good observations. Why do you think this page is titled MAP of the human body?

TEACHER DO: Prompt students to explore how this image is similar to and different from other maps they have encountered and used.

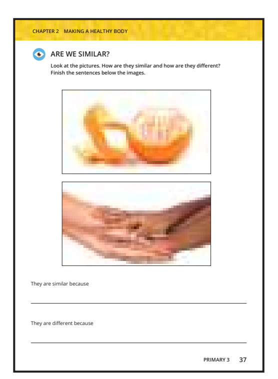

STUDENTS DO: Share ideas.

TEACHER SAY: Using the word map tells us that the image will show us where things are. There is another word for this special kind of picture with labels: DIAGRAM. A diagram is an image that helps to explain how something works. Usually a diagram includes labels showing the names of different parts. What labels do you see in this image? Share with your Shoulder Partner.


STUDENTS DO: Share names of labels (skin, heart, veins, bones, muscles, stomach) with **Shoulder Partner**.

3. TEACHER SAY: This diagram has labels for important parts of our body. Some parts we can see every day and some parts are inside and we never get to see them. We will come back to this map as we learn more about the parts that are labeled. Today we are going to explore a part of our body that we see every day but might not think much about. This part of our body provides a lot of protection. Because of this, it is very important that we keep it healthy. Can anyone guess what part this is?


STUDENTS DO: Offer guesses (skin).


CHAPTER 2 MAKING A HEALTHY BODY

ARE WE SIMILAR?

Look at the pictures. How are they similar and how are they different? Finish the sentences below the images.

They are similar because

They are different because

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TEACHER SAY: We have some pictures in our student books that will help us think about this body part. Turn in your student book to the page Are We Similar?. Look at the picture of the orange and the picture of the hands. How is our skin similar to the orange? How is it different? Share your ideas with your Shoulder Partner.


STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER SAY: Thank you for that great discussion. Now read the directions to yourselves and complete the sentences.


STUDENTS DO: Read the directions and write responses to prompts.

TEACHER SAY: Now let's Hands Up, Pair Up to share your thoughts about the two pictures. Listen carefully to what your partner says. I will ask you to share his or her ideas instead of your own.

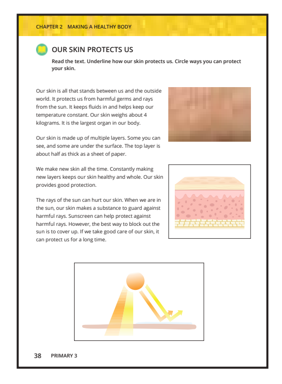
TEACHER DO: Allow time for students to find a partner and discuss the two pictures.




STUDENTS DO: Share ideas and listen carefully to others' answers. (This is an opportunity for students to practice the Life Skill: Communication.)

TEACHER SAY: Let's share with the whole class. I will choose three students to share what another student said. Be sure to tell us, respectfully, whether you agree or disagree with your partner and why.


STUDENTS DO: Share and respond to others' ideas.


CHAPTER 2 MAKING A HEALTHY BODY

OUR SKIN PROTECTS US

Read the text. Underline how our skin protects us. Circle ways you can protect your skin.

Our skin is all that stands between us and the outside world. It protects us from harmful germs and rays from the sun. It keeps fluids in and helps keep our temperature constant. Our skin weighs about 4 kilograms. It is the largest organ in our body.

Our skin is made up of multiple layers. Some you can see, and some are under the surface. The top layer is about half as thick as a sheet of paper.

We make new skin all the time. Constantly making new layers keeps our skin healthy and whole. Our skin provides good protection.

The rays of the sun can hurt our skin. When we are in the sun, our skin makes a substance to guard against harmful rays. Sunscreen can help protect against harmful rays. However, the best way to block out the sun is to cover up. If we take good care of our skin, it can protect us for a long time.

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4. TEACHER SAY: Thank you for that fantastic discussion about our skin. You made some creative connections between our skin and the skin of an orange. Let's read more about how our skin is important. Turn in your student book to the page Our Skin Protects Us. Read and follow the directions. Take turns reading with your Shoulder Partner. We will discuss the page when everyone is ready.

 **STUDENTS DO:** Read the informational text and follow the directions.

TEACHER DO: Highlight the word "organ" in the text. Explain that this is a word for certain parts of our body that have a specific function.

TEACHER SAY: Let's go over the page together. The first direction was to underline how our skin protects us. The second direction was to draw a circle around ways to protect our skin.



TEACHER DO: Use **Calling Sticks** to choose students to share what they underlined and what they circled. This is an opportunity for students to practice the Life Skill: Critical Thinking.

 **STUDENTS DO:** Respond and make necessary corrections.

TEACHER DO: After each direction, have a brief discussion. Answers are provided below:

How our skin protects us:
- Protects us from harmful germs
- Protects us from rays from the sun
- Keeps fluids in
- Keeps our temperature constant

Ways to protect our skin:
- Use sunscreen
- Cover up

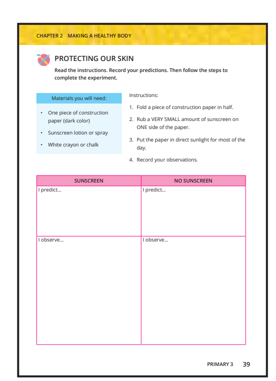
5. TEACHER SAY: You have worked hard to learn more about our skin. It is time for a brain break before we investigate more about the skin.

TEACHER DO: Direct students to stand, making room around them for movement. Pull one index card and help a student lead the class only as needed.

 **STUDENTS DO:** Follow as a student leads a brain break.

TEACHER DO: Direct students to return to their seats.

Note to Teacher: If materials for this investigation are not available, you can describe the steps of the investigation to students, have them predict the outcome, then either describe the outcome or show a picture or video of the outcome for discussion.


CHAPTER 2 MAKING A HEALTHY BODY

PROTECTING OUR SKIN

Read the instructions. Record your predictions. Then follow the steps to complete the experiment.

Materials you will need:
- One piece of construction paper (dark color)
- Sunscreen lotion or spray
- White crayon or chalk

Instructions:
1. Fold a piece of construction paper in half.
2. Rub a VERY SMALL amount of sunscreen on ONE side of the paper.
3. Put the paper in direct sunlight for most of the day.
4. Record your observations.

SUNSCREEN	NO SUNSCREEN
I predict...	I predict...
I observe...	I observe...

PRIMARY 3 39

6. TEACHER SAY: Now we are ready to do an investigation. We are going to investigate how you can take care of your skin and what can happen if you do not take care of it. Please turn in your student book to the page Protecting Our Skin and read the directions.

 **STUDENTS DO:** Read directions.

TEACHER SAY: You will be working in groups for this experiment. Remember to take turns and work together. This will be a good opportunity for you to practice the life skill of sharing that you learned about in the last chapter. Who can remind us what that life skill looks like?

 **STUDENTS DO:** Share examples.

TEACHER DO: Reinforce that an important strategy for sharing is when students determine which tasks need to be completed during group work and effectively divide up the work so that everything gets accomplished on time.

TEACHER SAY: Before we begin, I want to Model the directions for each step.

TEACHER DO: Arrange students in small groups of five to seven students, depending on the amount of supplies prepared ahead of time. **Model** actions for students as you read.

TEACHER SAY: Are there any questions about what you will do?

 Sharing

TEACHER DO: Clarify if necessary, then prompt students to assign roles, such as one student to gather the materials, another to record predictions, and a third to record observations. This is an opportunity for students to practice the Life Skill: Sharing. Direct groups to gather the materials. Guide students to record predictions on the student page as they complete the steps. As students work, visit groups and assist as needed. Pause the entire class to clarify instructions as needed.

 **STUDENTS DO:** Set up the investigation and record predictions.

Note to Teacher: The pieces of construction paper need to be set in the sunlight for several hours. It may work best if they can be set outside. Otherwise, the paper should be set in a sunny window. Before collecting the papers, have groups write their names on the paper using white crayon or chalk. Groups will need to complete the conclusions to the investigation at the beginning of the next lesson.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Thank you for working hard on the investigation today. Please stay in your groups and share ideas about what you think will happen to the paper. If you have ever used sunscreen or heard others talk about it, use what you know to help explain your thinking.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: In our next lesson, we will record our results from the investigation. Then we will learn about another part of our bodies that helps us work and play.

Lesson 4 Overview

LEARNING OUTCOMES

Students will:
- Identify how bones and muscles work together in the body.
- Build a model of a finger that can move.

PREPARATION

Cut the yarn into 30 cm pieces. Tie a knot at the end of each piece. Each group will need one piece of yarn.

Complete the mechanical finger model on your own before class if possible, to identify any steps where students may struggle and to confirm that you understand and can explain each step. Prepare the following materials in one central location for teacher use or as a supply station for student groups to access when needed. Materials (for each group) include:
- One piece of cardstock
- One or two drinking straws
- Scissors
- One piece of yarn, 30 cm
- Tape

KEY VOCABULARY

- Bones
- Muscles

LIFE SKILLS

Learn to Know

Critical Thinking:
- Identify subject/topic-related information.
- Explain thinking processes.

Learn to Work

Decision-Making:
- Identify results and expected results.

Learn to Live Together

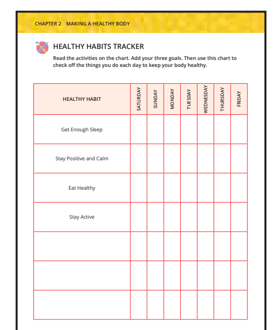
Sharing:
- Effective management and organization of tasks.

MATERIALS

- Student books
- Pencils
- Crayons
- Cardstock
- Scissors
- Drinking straws
- Tape
- String or yarn

Learn (90 minutes)

Directions



CHAPTER 2 MAKING A HEALTHY BODY

HEALTHY HABITS TRACKER

Read the activities on the chart. Add your three goals. Then use this chart to check off the things you do each day to keep your body healthy.

HEALTHY HABIT	SATURDAY	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Get Enough Sleep							
Stay Positive and Calm							
Eat Healthy							
Stay Active							

CHAPTER 2 MAKING A HEALTHY BODY

PROTECTING OUR SKIN

Read the instructions. Record your predictions. Then follow the steps to complete the experiment.

Materials you will need:
- One piece of construction paper (dark color)
- Sunscreen lotion or spray
- White crayon or chalk

Instructions:
1. Fold a piece of construction paper in half.
2. Rub a VERY SMALL amount of sunscreen on ONE side of the paper.
3. Put the paper in direct sunlight for most of the day.
4. Record your observations.

SUNSCREEN	NO SUNSCREEN
I predict...	I predict...
I observe...	I observe...

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **Before we begin today's lesson, find the Healthy Habits Tracker in your student book and mark your progress. When your Shoulder Partner is ready, share your successes with each other.**

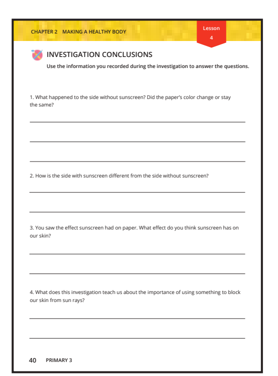


STUDENTS DO: Record progress. Share with partners.

TEACHER SAY: **Thank you for sharing about the healthy habits you are making. Now it is time to return to the investigation we set up to test the effect of sunscreen on our skin. Raise your hand if you can remind us how we set up the investigation.**

TEACHER DO: Choose students with raised hands until the correct answer is given. Encourage students to explain what the paper represents (our skin).

2. TEACHER SAYS: **Now it is time to look at the papers again and record your observations. Please turn in your student book to the page we started yesterday, Protecting Our Skin, and send one student to retrieve your group's paper. Record your observations of the construction paper.**



CHAPTER 2 MAKING A HEALTHY BODY | Lesson 4

INVESTIGATION CONCLUSIONS

Use the information you recorded during the investigation to answer the questions.

1. What happened to the side without sunscreen? Did the paper's color change or stay the same?

2. How is the side with sunscreen different from the side without sunscreen?

3. You saw the effect sunscreen had on paper. What effect do you think sunscreen has on our skin?

4. What does this investigation teach us about the importance of using something to block our skin from sun rays?

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STUDENTS DO: Retrieve paper from previous lesson, observe changes, and record observations.

3. TEACHER SAY: The first thing we do to learn from a scientific investigation is record what we observe. Next, we analyze our data or findings, to see what we can learn from them. Scientists often use the word "conclusions" to describe a decision that is based on thinking and using evidence. On the next page, Investigation Conclusions, you will find some questions to help you analyze your data and learn from your observations. Work in your groups to answer the questions.

TEACHER DO: As students work, visit groups and assist as needed.



STUDENTS DO: Complete student book page in groups. (This is an opportunity for students to practice the Life Skill: Decision-Making.)

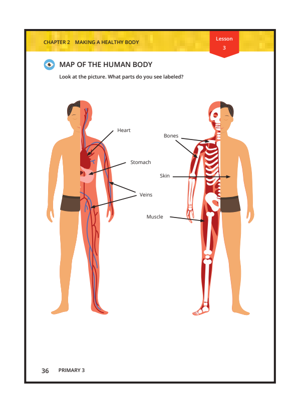
TEACHER SAY: Let's review your conclusions together.

Note to Teacher: Students should observe that the sun faded the color of the paper that was not protected by sunscreen. Address the potential misconception that the sun might "fade" our skin if not protected by sunscreen. In fact, the opposite happens; our skin gets darker with the sun due to the production of melanin. Melanin is the body's way of protecting itself from burning. This concept is quite sophisticated, so to simplify for students, focus on the original color of the paper. Sunscreen protected the paper by maintaining the original color. When used on our skin, sunscreen protects our "original color."

TEACHER DO: Work through each of the questions, choosing students from different groups to share observations and conclusions. Prompt students to explain the reasoning that led to each conclusion. This is an opportunity for students to practice the Life Skill: Critical Thinking.

4. TEACHER SAYS: Thank you for your great thinking. This is the perfect time to take a brain break. Let's see what we are going to act out today.

TEACHER DO: Select one of the students' brain break cards. Have the student who created the card model for the class how to do the movement.



CHAPTER 2 MAKING A HEALTHY BODY | Lesson 3

MAP OF THE HUMAN BODY

Look at the picture. What parts do you see labeled?

36 PRIMARY 3



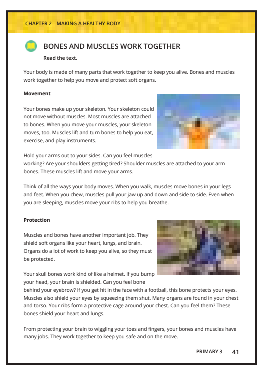
STUDENTS DO: Follow along as the student models the brain break activity.

5. TEACHER SAYS: Thank you for participating in our brain break. The energy boost will be helpful as we work through the next lesson. Please turn in your student book to the page Map of the Human Body. Yesterday we learned about skin. Today we will focus on the parts of our body that help us move. What parts do you think we will learn about?



STUDENTS DO: Share ideas (muscles and bones).

TEACHER DO: Facilitate a conversation to have students identify the muscles and bones on the map of the human body and to share what they already know about bones and muscles.



CHAPTER 2 MAKING A HEALTHY BODY

BONES AND MUSCLES WORK TOGETHER

Read the text.

Your body is made of many parts that work together to keep you alive. Bones and muscles work together to help you move and protect soft organs.

Movement

Your bones make up your skeleton. Your skeleton could not move without muscles. Most muscles are attached to bones. When you move your muscles, your skeleton moves, too. Muscles lift and turn bones to help you eat, exercise, and play instruments.

Hold your arms out to your sides. Can you feel muscles working? Are your shoulders getting tired? Shoulder muscles are attached to your arm bones. These muscles lift and move your arms.

Think of all the ways your body moves. When you walk, muscles move bones in your legs and feet. When you chew, muscles pull your jaw up and down and side to side. Even when you are sleeping, muscles move your ribs to help you breathe.

Protection

Muscles and bones have another important job. They shield soft organs like your heart, lungs, and brain. Organs do a lot of work to keep you alive, so they must be protected.

Your skull bones work kind of like a helmet. If you bump your head, your brain is shielded. Can you feel bone behind your eyebrow? If you get hit in the face with a football, this bone protects your eyes. Muscles also shield your eyes by squeezing them shut. Many organs are found in your chest and torso. Your ribs form a protective cage around your chest. Can you feel them? These bones shield your heart and lungs.

From protecting your brain to wiggling your toes and fingers, your bones and muscles have many jobs. They work together to keep you safe and on the move.

PRIMARY 3 41

6. TEACHER SAYS: Bones and muscles are really important. Let's learn more about them. Please turn in your student book to the page Bones and Muscles Work Together. Before you begin reading this informational text, who can glance at the page and tell us what the first job of bones and muscles described is going to be? Then, tell us how you know.



STUDENTS DO: Read the first subheading and provide the answer (movement).

TEACHER DO: Reinforce that subheadings in informational or nonfiction texts provide structure and clues for the content. Then, have students read individually or in partners the paragraph under the subheading "movement."

TEACHER SAY: We just read about how muscles and bones work together to help us move and do all of the activities we love. Let's read more in our student books about another important job of bones and muscles.

TEACHER DO: Have students read individually or with a partner the paragraph titled, "Protection."

 **STUDENTS DO:** Read the second section.



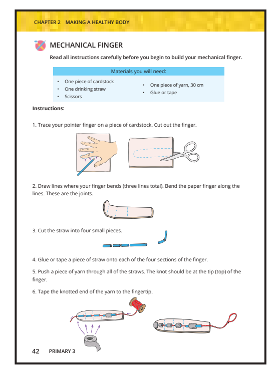
TEACHER DO: Prompt students to discuss how bones and muscles work together. Encourage students to give examples from the text of how bones and muscles work together to help us move and protect our organs. This is an opportunity for students to practice the Life Skill: Critical Thinking.

7. TEACHER SAY: There are many, many bones and muscles in our bodies. Let's focus on a small area we use constantly to think more about how bones and muscles work together. Can everyone raise one finger?

 **STUDENTS DO:** Raise one finger.

TEACHER SAY: Now, bend that finger and straighten it a few times. Turn to your Shoulder Partner and talk to each other about how you think your bones and muscles work together to bend and straighten your finger.

 **STUDENTS DO:** Observe bending and straightening one finger, then discuss the movement with **Shoulder Partner**.



CHAPTER 2 MAKING A HEALTHY BODY

MECHANICAL FINGER

Read all instructions carefully before you begin to build your mechanical finger.

Materials you will need:	
• One piece of cardstock • One drinking straw • Scissors	• One piece of yarn, 30 cm • Glue or tape

Instructions:

1. Trace your pointer finger on a piece of cardstock. Cut out the finger.
2. Draw lines where your finger bends (three lines total). Bend the paper finger along the lines. These are the joints.
3. Cut the straw into four small pieces.
4. Glue or tape a piece of straw onto each of the four sections of the finger.
5. Push a piece of yarn through all of the straws. The knot should be at the tip (top) of the finger.
6. Tape the knotted end of the yarn to the fingertip.

42 PRIMARY 3

TEACHER SAY: We can do a lot of different things with our hands because our finger bones can each move with the help of your muscles. Since all of this happens under our skin, it is hard to see our bones and muscles working. Let's create a model of what we have learned to see how it works. Please turn in your student book to the page Mechanical Finger and read the first direction to yourself.

Note to Teacher: Students will build in groups of three or four. If very few materials are available, build one or two mechanical finger models as a demonstration, having students read the instructions to you. Then allow groups to test out pulling on the yarn to make the fingers move.

 **STUDENTS DO:** Read the first direction silently.

TEACHER SAY: We are going to read all of the steps together. Then we will get the materials and begin building a mechanical finger.

TEACHER DO: Choose students to read each instruction and discuss any questions. Remind students about practicing the life skill of sharing during group work. Distribute materials. Read each instruction again and **Model** each step if needed to build a mechanical finger, walking around to help students as they work. If students have trouble stringing the yarn through the straw, use a skewer stick to push the knotted end of the yarn through the straw pieces.

Note to Teacher: The yarn will act like a tendon that helps the finger bend. However, muscles pull on the tendons to make them move. Therefore, for the purposes of this model, it is okay to simplify the system and describe the yarn as the muscles. If students are more advanced, you may introduce the word tendon.

 Sharing

 **STUDENTS DO:** Make and test mechanical fingers. (This is an opportunity for students to practice the Life Skill: Sharing.)

TEACHER SAY: Great job building your mechanical fingers. When we make models like this, we try to get the model to look and move like the real thing. But it is difficult to make models that are exactly like the real thing. Look at the mechanical finger you built and your real finger. How are they similar? How are they different? Share your ideas with your group.

 **STUDENTS DO:** Share ideas with group.

TEACHER DO: Choose a student to start a **Popcorn** discussion. Encourage students to demonstrate the similarities and differences they see between the model and a real finger.

 **STUDENTS DO:** Share ideas.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we have learned about how our bones and muscles work together to protect our organs and help us move. Please turn to your Shoulder Partner and describe how your muscles and bones worked together to help you do our brain break earlier today.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER SAY: Now think back to the healthy habits we have been working on. How will these habits help your bones and muscles to stay healthy? Share with your Shoulder Partner.

STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to select several students to share ideas with the whole class.

TEACHER SAY: Thank you for all of your hard work today. In our next lesson, we will learn about one of our organs and how it helps us to live. Be sure all of your materials are put away.

Lesson 5 Overview

LEARNING OUTCOMES

Students will:
- Discover what happens to food when it is eaten.
- Build a model of the stomach digesting food.

KEY VOCABULARY

- Digestion
- Nutrients
- Stomach

MATERIALS

- Student books
- Pencils
- Crayons
- Plastic resealable bags
- Lemon juice
- Crackers

PREPARATION

Complete the stomach model on your own before class if possible, to identify any steps where students may struggle and to confirm that you understand each step. Prepare the following materials in one central location for teacher use or as a supply station for student groups to access when needed. Materials (for each group) include:
- Lemon juice, 60 mL (water can be substituted if lemon juice is not available)
- One plastic resealable bag
- One cracker

LIFE SKILLS

Learn to Know	Learn to Live Together
Critical Thinking: • Identify subject/topic-related information. • Explain thinking processes.	Sharing: • Effective management and organization of tasks.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **Before we begin today's lesson, find the Healthy Habits Tracker in your student book and mark your progress. When your Shoulder Partner is ready, share your successes with each other.**



STUDENTS DO: Record progress.

TEACHER SAY: **You are doing a wonderful job with your healthy habits. Let's learn more about how parts of our body work. Yesterday we created a model of a finger to see how bones and muscles work together to help us move. We also learned about another import job of bones and muscles. If you think you know what this other job is, Whisper the answer into your hands.**



STUDENTS DO: Whisper the answer into hands.

TEACHER SAY: **Thumbs Up if you remember the other important job of our bones and muscles.**



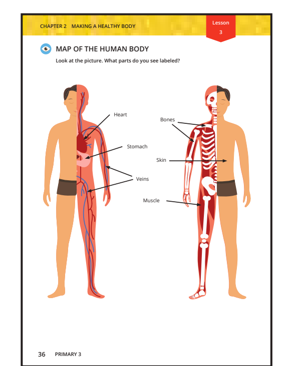
STUDENTS DO: Thumbs Up or not.

TEACHER DO: Choose a student showing Thumbs Up to tell the class the second main job of bones and muscles (protect our organs).

TEACHER SAY: **Yes, very good. Our bones and muscles protect our organs inside our bodies. These organs keep our bodies working properly. Today we are going to explore the organ that**

helps us get nutrients and energy from the food we eat. What organ do you think will learn about today?

 STUDENTS DO: Share ideas.



TEACHER SAY: **Please turn in your student book to the page Map of the Human Body. Identify the stomach on our map and see if your Shoulder Partner agrees.**

 STUDENTS DO: Find the stomach on the map of the human body and point it out to Shoulder Partner.

TEACHER SAY: **We need food to be healthy. Our bodies give us signals when we need to eat. Sometimes we feel our stomachs grumble when we are hungry. Who can share another signal your body gives you when you are hungry?**

TEACHER DO: Choose students with hands raised to offer stories.

 STUDENTS DO: Share stories.



2. TEACHER SAY: **Thank you for sharing. Let's learn more about how our stomachs work. Please turn in your student book to What Happens to the Food You Eat?. Before we read this page, turn and talk to your Shoulder Partner about what you think happens to the food you eat.**

 STUDENTS DO: Share ideas with Shoulder Partner.

TEACHER SAY: **Good thinking. Let's read to see if your ideas match what is in the passage. Take turns reading with your Shoulder Partner. As you read, circle any words you do not know.**

 STUDENTS DO: Read the story with partners.

TEACHER SAY: **Were there any words that you had difficulty reading?**

TEACHER DO: Record any words on the board that students may not know. Show students how to sound out the words and briefly discuss definitions. Leave the words on the board for reference. If needed, reread the passage aloud for the class as students follow along. Afterward, lead a discussion about the passage. Discussion topics may include, but are not limited to:

- What is the fuel for our bodies?
- What is in food that powers our bodies?
- What has to happen to food in order for our bodies to use it?
- What is digestion?
- What path does our food take when we eat it?
- What large organ helps to digest our food?

STUDENTS DO: Share ideas. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

TEACHER SAY: **Thank you for a thoughtful discussion. You have been working hard, so now is a good time to get a boost of energy with a new brain break. The student who created the new movement will lead today's brain break.**

TEACHER DO: Select one of the students' brain break cards. Have the student who created the card Model for the class how to do the movement.

 STUDENTS DO: Follow along as the student models the brain break activity.

3. TEACHER SAY: **Thank you for leading today's brain break. In our passage, we learned that our muscles help our stomach to stir up the food we eat. But our muscles cannot do the job alone. Our stomachs have acid in them to help break up the food small enough for our bodies to use the nutrients. Just like the muscles that move our fingers, this whole process happens somewhere that we cannot easily see. Let's create another model to see how our stomachs work. Please turn in your student book to How the Stomach Works. Read the directions and the two questions at the end.**



STUDENTS DO: Read directions and questions.



TEACHER SAY: You will be working in groups again for this activity. Remember to take turns and work together, while you continue practicing the life skill of sharing. Before we begin, I want to Model the instructions for each step.

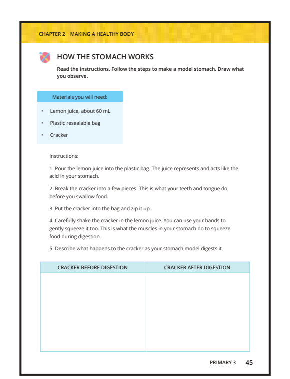
TEACHER DO: Arrange students in small groups of three to five students, depending on the amount of supplies prepared ahead of time. **Model** actions for students as you read.

TEACHER SAY: Are there any questions about what you will do?

TEACHER DO: Clarify if necessary, then direct groups to gather the materials. Guide students to record observations on the student page as they complete the steps. As students work, visit groups and assist as needed. Pause the entire class to clarify instructions as needed.



STUDENTS DO: Complete the activity, recording observations.



CHAPTER 2 MAKING A HEALTHY BODY

HOW THE STOMACH WORKS

Read the instructions. Follow the steps to make a model stomach. Draw what you observe.

Materials you will need:

- Lemon juice, about 60 mL
- Plastic resealable bag
- Cracker

Instructions:

1. Pour the lemon juice into the plastic bag. The juice represents and acts like the acid in your stomach.
2. Break the cracker into a few pieces. This is what your teeth and tongue do before you swallow food.
3. Put the cracker into the bag and zip it up.
4. Carefully shake the cracker in the lemon juice. You can use your hands to gently squeeze it too. This is what the muscles in your stomach do to squeeze food during digestion.
5. Describe what happens to the cracker as your stomach model digests it.

CRACKER BEFORE DIGESTION	CRACKER AFTER DIGESTION

PRIMARY 3 45

TEACHER SAY: You made wonderful observations of food digesting in our stomach models. Let's clean up our area, and then we will answer the two questions we read earlier.

TEACHER DO: Give students specific directions for clean up as needed.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: You have had some good discussions today about how our stomach helps to digest food. Turn back to the page How the Stomach Works. Think about what you observed today and write answers to the two questions.





STUDENTS DO: Reflect on the activity and answer questions. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

TEACHER SAY: Again, think back to the healthy habits we have been tracking. How do these habits involve your stomach? How do our stomachs help us to stay healthy? Share with your Shoulder Partner.



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to select several students to share ideas with the whole class.

TEACHER SAY: In tomorrow's lesson we will learn about another important organ in our body. Remember to keep working on your healthy habits.

Lesson 6 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify important facts within written text. • **Model** movement of blood through the body. • Create a poem about the heart.	• Artery • Contract • Expand • Heart • Vein	• Paper cardboard tubes and/or plastic cups with bottom cut out, one per group • Student books • Pencils

LIFE SKILLS
Learn to Be
Self-Management: • Review progress in realizing goals. Communication: • Reading, writing, non-verbal communication skills.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: Before we begin our lesson today, let's return to the student book page Healthy Habits Tracker. Think for a moment before recording your check marks as you reflect on yesterday's behaviors.



STUDENTS DO: Self-assess progress.

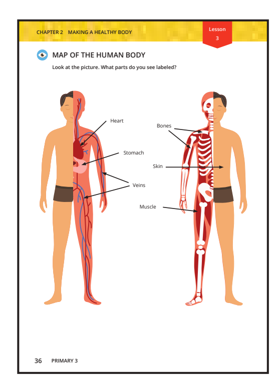
TEACHER SAY: Let's reflect on your progress so far. Is there something you need to work on today to improve, or is there something you need to do to continue making good progress? Turn and talk with your Shoulder Partner. What are your goals for today?



STUDENTS DO: Reflect and share goals.



TEACHER DO: Listen to conversations to assess students' ability to set goals. This is an opportunity for students to practice the Life Skill: Self-Management.



2. TEACHER SAY: Please turn in your student books to the page Map of the Human Body. Let's begin today's lesson with a riddle. I will give you three clues. When you think you know the organ I am thinking about, show Thumbs Up in front of your chest. Do not say anything. We want everyone to have a chance to discover the answer on their own.

- **Clue 1: This organ is the size of your fist.**
- **Clue 2: This organ sits behind the ribs.**
- **Clue 3: This organ pumps blood.**

What is this organ?

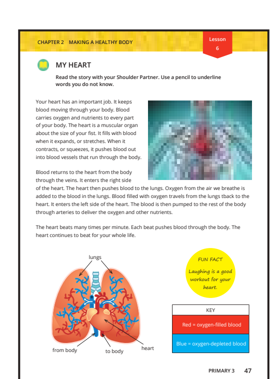
TEACHER DO: Once you see many students with **Thumbs Up**, encourage students to share guesses. Ask students to explain which clue guided them to an answer.

STUDENTS DO: Predict solution to the riddle (heart).

TEACHER SAY: Congratulations. Many of you were able to solve my riddle. Today we will begin learning about our heart. What do you think of when you hear the word HEART?



STUDENTS DO: Respond with ideas and prior knowledge.



CHAPTER 2 MAKING A HEALTHY BODY — Lesson 6

MY HEART

Read the story with your Shoulder Partner. Use a pencil to underline words you do not know.

Your heart has an important job. It keeps blood moving through your body. Blood carries oxygen and nutrients to every part of your body. The heart is a muscular organ about the size of your fist. It fills with blood when it expands, or stretches. When it contracts, or squeezes, it pushes blood out into blood vessels that run through the body.

Blood returns to the heart from the body through the veins. It enters the right side of the heart. The heart then pushes blood to the lungs. Oxygen from the air we breathe is added to the blood in the lungs. Blood filled with oxygen travels from the lungs tback to the heart. It enters the left side of the heart. The blood is then pumped to the rest of the body through arteries to deliver the oxygen and other nutrients.

The heart beats many times per minute. Each beat pushes blood through the body. The heart continues to beat for your whole life.

PRIMARY 3 47

3. TEACHER SAY: You already know many things about your heart. Let's begin learning more about our heart and the job it does by reading an article in our student books. Turn to the page My Heart. Work with your Shoulder Partner to follow the directions on the page. When you finish, look up and I will know you are ready to go on.

Note to Teacher: Depending upon your students' literacy level, you may choose to read the article orally instead of assigning the reading to partners. There are many new words for students to explore in the text. You may wish to spend additional time discussing vocabulary with the entire class.



STUDENTS DO: Read and underline unknown words.

TEACHER SAY: I know there are many new words for us to learn in this text. What are some words you are not sure about? Maybe you are not sure how to pronounce a word, or maybe you are not sure what a word means.



STUDENTS DO: Share unfamiliar words.

TEACHER DO: Write the unfamiliar words on the board or on chart paper. Sound out the words, discuss definitions, and reference the list as you use the language throughout the lesson.

TEACHER SAY: There are many important facts in our passage about the heart. Let's go over some of these facts together.

TEACHER DO: Ask students questions about the reading. Suggested questions include:
- What is meant by contract? Can you demonstrate the word contract with your hands?
- What is meant by expand? Can you demonstrate the word expand with your hands?
- What does the heart do as it beats? (**Model** expanding and contracting by clasping your hands together, pushing and releasing. Have students copy your movements.)
- Why is it important for blood to flow to the lungs?

Use the diagram to have students trace the path of blood through the heart.



STUDENTS DO: Participate in finding answers and performing actions.

TEACHER SAY: This page has a lot of new information for us. With your Shoulder Partner, find three facts you want to remember. Highlight the three facts by coloring over the sentence with a light-colored crayon. When you finish, share your facts at the table. Then close your book so I know you are ready.



STUDENTS DO: Collaborate to find three important facts.

TEACHER DO: While students work, get supplies ready: cardboard tubes or plastic cups with the bottom cut out, one per group.

4. TEACHER SAY: Now would be a good time for a brain break. I will pull one student's card to lead our brain break. The rest of us need to listen closely so we know what to do.



STUDENTS DO: Follow the student's lead to participate in a brain break.

TEACHER SAY: Excellent. Thank you for leading us in our brain break. We just read about and discussed how our hearts work. Let's look at new ways to explain how our heart works. Before we begin, where is your heart in your body? Please point to where you think your heart is located.



STUDENTS DO: Point to where the heart is located.

TEACHER SAY: **Your heart is located between your two lungs toward the front of your chest. It is about the size of your fist and will grow as you grow.**

TEACHER DO: Show a fist at the front of your chest and slightly to the left of center.

 **STUDENTS DO:** Mimic the teacher's demonstration.

TEACHER SAY: **Have you ever listened to someone's heart? Doctors use a stethoscope to listen to our hearts beating. We will use the cardboard tubes and cups to try to listen to our friends' hearts. Everyone will need to be very quiet. One person from each table, please come to get supplies for your table.**

 **STUDENTS DO:** Collect supplies.

TEACHER DO: Students should place one open end of the cup or tube carefully on their partner's chest and listen to the other end. If students are uncomfortable working together, you may wish to ask for student volunteers to come and listen to your heart. **Model** how to listen and where to place the tube. Walk around to make certain students are able to succeed.

TEACHER SAY: **Hold the tube over your friend's heart and listen quietly. Can you hear it? Be sure to take turns so everyone can try.**

 **STUDENTS DO:** Listen to a partner's heartbeat.

5. TEACHER SAY: **Sometimes it is hard to hear a heartbeat, but I know some of you were able to hear. Here is another way to think about how our heart moves blood through our body.**

TEACHER DO: Go to the board and draw a large number 8. Put an X in the middle where the lines cross each other. Ask students to trace a number 8 in the air beginning in the middle of the X. Tell students that the heart is like the X on the figure 8. Trace the number 8 again beginning at the X. Remind students that the X represents the heart. Explain that blood goes from the heart to the lungs, back to the heart, from the heart to the body, and back to the heart. On your drawing, label the heart in the middle, lungs at the top, and body at the bottom. Then ask students to name the parts as you trace them—heart, lungs, heart, body, heart.

 **STUDENTS DO:** Trace the number 8 in the air and name parts orally.

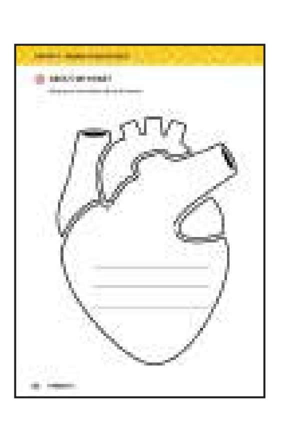
Note to Teacher: For advanced classes, ask students to consider what about this model is accurate and what might cause confusion. The model helps to remember the order of where blood flows, but it may lead to the misunderstanding that blood only flows down from the heart to the lower part of the body. In reality, blood also flows up to the brain and body parts above the heart.

TEACHER SAY: **We read in our passage that the heart is a muscle. Everyone, flex your arm muscle. Let's see how strong you are.**

TEACHER DO: **Model** flexing your bicep muscle and then relax it. Demonstrate putting your other hand on the muscle and feel the difference in it.

 **STUDENTS DO:** Flex own muscles.

TEACHER SAY: **You have already learned that the muscles in your arms and legs help your skeleton move. These are skeletal muscles. Our brains decide when and how to control their movement. The heart is considered a smooth muscle. It contracts and expands on its own. We do not have to think about reminding it to beat. It is automatic, even when we sleep.**



6. TEACHER DO: Direct students to the next page in the student book, About My Heart.

Note to Teacher: A haiku is a simple form of poetry from Japanese culture that uses a specific number of syllables in each line, as described in the discussion below. To simplify this activity, ask students to write three sentences about the heart instead, and adjust the following conversation accordingly.

 **STUDENTS DO:** Turn to correct page and listen for directions.

TEACHER SAY: We have learned so much about our hearts today. We can remember what we have learned so far by writing a short poem about our heart. One interesting type of short poem from the Japanese culture is called a haiku. It is not like most poems because it does not have rhyming words. It only has 17 syllables in all: five in the first line, seven in the middle line, and five in the last line. Who can demonstrate what a syllable is?

 **STUDENTS DO:** Demonstrate syllables in a phrase or sentence.

TEACHER DO: Clap out the syllables of a few short phrases with students so they can easily hear the difference in sounds.

TEACHER SAY: Think about the first line while I write the pattern on the board. The first line has five syllables. What can you say about the heart in five syllables?



TEACHER DO: Write the pattern on the board. Take responses from students, counting out the syllables with them. If students have difficulty coming up with an idea, suggest your own, such as: I feel my heartbeat. Tell students to have a friend at the table check their phrase to confirm it has five syllables. Once students are ready, they should write the five-syllable phrase on the first line in the heart. This is an opportunity for students to practice the Life Skill: Communication.

 **STUDENTS DO:** Create a five-syllable phrase about the heart.

TEACHER DO: Continue guiding students to complete the other two lines of a haiku (seven syllables in the second line, five in the third), other three-line poem, or three sentences. Encourage student ideas. When students are ready to share ideas about the third line, have them clearly pronounce the five syllables and then read the entire haiku. Allow students to work together as needed to increase creativity.

 **STUDENTS DO:** Complete poem.

TEACHER SAY: You are wonderful poets. Let's Hands Up, Pair Up to share our poems with other students.

TEACHER DO: Lead **Hands Up, Pair Up**, allow time to share, and then repeat the process one or two more times.

 **STUDENTS DO:** Share with classmates.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We learned so many facts today. Let's share some of our haikus with the whole class. I will draw three names with Calling Sticks. When I call your name, please stand and share your haiku with us.

 **STUDENTS DO:** Share haikus.

Lesson 7 Overview

LEARNING OUTCOMES

Students will:
- Learn how to measure pulse and record heart rate data.
- Test hypotheses about the impact of exercise on heart rate.
- Analyze test results.

PREPARATION

In today's activity, students will be timed for multiple experiments. Most of the tests can be completed at their seats, but you may need to rotate students through stations. See today's student page, Exercising My Heart, to plan for how to best organize the activity. If some of the items to test are not available, feel free to substitute with a comparable activity. Divide students into groups, depending upon supplies available and class size.

KEY VOCABULARY

- Heart rate
- Hypothesis
- Pulse

LIFE SKILLS

Learn to Know

Critical Thinking:
- Explain thinking processes.

Learn to Work

Collaboration:
- Respect for other opinions.

Decision-Making:
- Identify results and expected results.

MATERIALS

- Computers or tablet devices, if available
- Timer
- Student books
- Pencils



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **Before we begin today's lesson, find the Healthy Habits Tracker in your student book and mark your progress. When your Shoulder Partner is ready, share your successes with each other.**



STUDENTS DO: Record progress.

TEACHER SAY: **I hear some of you talking about the good progress you are making. Now think back to our earlier lessons when we talked about ways to stay healthy. We will use Think Time and then share some of those ideas. I will choose one student with the Calling Sticks. He or she will share and then choose two other students to share.**



STUDENTS DO: Lead the discussion.

TEACHER DO: Assess students' general level of understanding.

2. TEACHER SAY: **I am glad to hear you remember some ways to stay healthy. One of the ways we can stay healthy is to stay active. In our last lesson, we learned about the heart. Being active is very important for keeping our heart healthy. Today, let's discover more about how our heart works and why being active is important. We learned that the heart beats automatically. What do we mean by that?**



STUDENTS DO: Respond with understandings.

TEACHER SAY: Does the heart always beat at the same pace?


STUDENTS DO: Respond (no, sometimes it beats faster than other times).

TEACHER SAY: What evidence do you have that sometimes our hearts beat faster or slower? Why do you think it would beat differently?

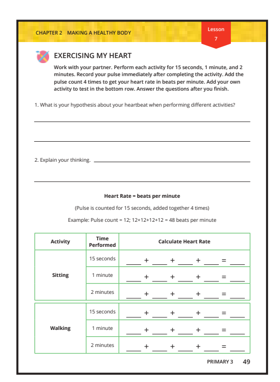

STUDENTS DO: Share experiences and inferences.

Note to Teacher: Students' answers will differ according to experiences and evidence that they give. The heart does beat by contracting, but it can beat faster or slower according to activity, emotions, and so on.



TEACHER DO: Ensure that students give evidence for their inferences. This is an opportunity for students to practice the Life Skill: Critical Thinking.

3. TEACHER SAY: You have made some inferences about how our hearts beat. Thank you for giving evidence for your conclusions. You have just shown me that you are good critical thinkers and good scientists too. Scientists begin with an inference or an idea, and then they test it. Let's test your ideas today.


CHAPTER 2 MAKING A HEALTHY BODY — Lesson 7

EXERCISING MY HEART

Work with your partner. Perform each activity for 15 seconds, 1 minute, and 2 minutes. Record your pulse immediately after completing the activity. Add the pulse count 4 times to get your heart rate in beats per minute. Add your own activity to test in the bottom row. Answer the questions after you finish.

1. What is your hypothesis about your heartbeat when performing different activities?

2. Explain your thinking.

Heart Rate = beats per minute

(Pulse is counted for 15 seconds, added together 4 times)

Example: Pulse count = 12; 12+12+12+12 = 48 beats per minute

Activity	Time Performed	Calculate Heart Rate
Sitting	15 seconds	___ + ___ + ___ + ___ = ___
	1 minute	___ + ___ + ___ + ___ = ___
	2 minutes	___ + ___ + ___ + ___ = ___
Walking	15 seconds	___ + ___ + ___ + ___ = ___
	1 minute	___ + ___ + ___ + ___ = ___
	2 minutes	___ + ___ + ___ + ___ = ___

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TEACHER DO: Direct students to the next page in the student book, Exercising My Heart. Make certain students are in pairs. Tell students to read the page and look up when they are finished. While students are reading, copy the first row of the chart on the board.


STUDENTS DO: Read the page.

TEACHER SAY: In our discussions, you used your experiences to explain your thoughts about if and when our hearts beat faster or slower. Since we are going to test our ideas, we will start with a hypothesis. A hypothesis is what we think will happen based on what we already know. Look at the list of activities. What do you think will happen to your heartbeat? Start with Think Time and then you will have a minute to discuss with your group.

TEACHER DO: Signal students at the end of **Think Time** and allow one to two minutes for discussion in their pairs. Write on the board: Hypothesis: I predict my heartbeat will ___________ during these activities. Explanation: I think this because ____________________________.

TEACHER SAY: Let's collect some of our hypotheses. I have written two sentences on the board. When I call on you, complete these two sentences aloud with your ideas. The first sentence is your hypothesis. The second sentence is your explanation of why you believe this to be true. Let's take time to form our sentences in our heads first.

STUDENTS DO: Formulate ideas into sentences.

TEACHER DO: Call on three or four students to share. If the ideas are generally the same, write one completed statement for all students to copy in the student book. If some students have different ideas, provide multiple options for students to copy.


STUDENTS DO: Decide on statements and record in student books.

TEACHER DO: If one of the provided activities is not feasible or safe to perform in the available space, have students cross out that row on the table and adjust the conversation below.

TEACHER SAY: Let's investigate our hypotheses. If we measure our heartbeat doing different activities, we can compare our data to our hypotheses. Let's read the directions given at the top of the page.


READ ALOUD: Work with your partner. Perform each activity for 15 seconds, 1 minute, and 2 minutes. Measure and record your pulse immediately after completing the activity. Add the pulse count 4 times to get your heart rate in beats per minute. Add your own activity to test in the bottom row. Answer the questions after you finish.

TEACHER SAY: Before we begin, turn to your partner and decide on an original activity you want to add. Write it on the last row of the table in your book.

STUDENTS DO: Decide on an original activity and record it on the table.

TEACHER DO: Explain the process for the investigation, including where each of the activities should be done and any other organizational factors. If clocks or timers are available, guide students on how to use the tools provided. If timers are not available for students, have the whole group perform investigations at the same pace, and call out times (15 seconds, one minute, and two minutes) for each activity.

TEACHER SAY: The data we will be collecting today is our heart rate after various activities. To collect this data, we need to learn how to measure our heart rate. We can calculate our heart rate by counting how many times the heart beats in one minute. Since we cannot directly feel our hearts beating, we can count heart beats by taking our pulse. We can feel our pulse, a vein contracting and expanding, at our wrists or on our necks. Doctors and nurses often take our pulse. It will tell us how much work our heart is doing. Has anyone been to a doctor or nurse and had their pulse taken?



STUDENTS DO: Share experiences.

TEACHER SAY: We use the term "heart rate" to describe how fast or how slow a person's heart is beating. Heart rate is measured in beats per minute. Let's think about what that means. Each time your heart beats, we can count it. Touch your heart (or your neck or wrist) and see if you can keep track of how many times your heart beats. Let's practice all together. First, find your heartbeat. This is called your pulse.

TEACHER DO: Demonstrate how to take a pulse, either on the wrist or on the neck. (The neck may be easier for students.) Make certain all students are able to find their pulse and count beats. Students who easily find a pulse should be able to help others.



STUDENTS DO: Locate heartbeat/pulse.

TEACHER SAY: Now, I will keep track of the time. We can either count for one minute, or we can count for part of a minute and think about how math can help us find a pattern. Does anyone have any ideas about how we might be able to count for less than sixty seconds, or one minute?



STUDENTS DO: Offer ideas.

TEACHER DO: If students do not make the connection that it is possible to count for part of a minute and then add the results together, you may need to explain the idea more fully. For example, you could count for 30 seconds and then double the number to get the count for a minute. You could count for 20 seconds and triple the number, and so on. For this experiment, students will count for 15 seconds and then add that result four times to get to the per minute count. This is an example of computational thinking, where students can identify arithmetic patterns to help solve problems.

TEACHER SAY: Great thinking. Let's keep track for 15 seconds. Are you ready? Once I say start, begin silently counting how many times your heart beats. I will be keeping track of my heartbeat or pulse as well.



STUDENTS DO: Count heartbeat/pulse for 15 seconds.

TEACHER DO: Use your own result as an example and demonstrate how to go from the 15-second count to the final resulting heartbeat, measured in beats per minute. Repeat the practice as necessary until students are ready to begin the experiment.



STUDENTS DO: Find and count pulse.

TEACHER SAY: Very good. When you look across the columns in the student book, you will also see that you test three different times for each activity. Why do you think we are testing multiple times?



STUDENTS DO: Predict.

TEACHER SAY: Let’s use some Think Time. Do you think there will be a difference in how fast our heart beats after 15 seconds or two minutes of the same activity? Thumbs Up if yes, thumbs down if you do not think there will be a change, and thumbs in the middle if you are not sure.

 **STUDENTS DO:** Predict results.

TEACHER SAY: Keep your predictions in mind. It is time for us to start testing our ideas. We can all do the first row together. Everyone should be seated now. Please sit quietly. Close your eyes and relax. This is going to be a calm time. I will time everyone and when I say stop, you will find your pulse and be ready to count. Remember you are counting for 15 seconds, but we will be doing the activity for different amounts of time. Listen carefully as I give the start and stop times for both the pulse count (15 seconds) and the activity time.

TEACHER DO: Time the students as they do the first activity (sitting) for 15 seconds, then say "you are done, now find your pulse." Direct students to remain quiet as they find their pulse. Once students are ready, say, “start,” and time students for 15 seconds while they count heart beats. When you say, “stop,” students should write the number four times on the first line. **Model** writing on the board, completing ___ + ___ + ___ + ___ = ___

 **STUDENTS DO:** Take pulse and record answer.

TEACHER SAY: Do you think we all have the same heart rate? Check with your neighbor.

 **STUDENTS DO:** Check with neighbors.

TEACHER SAY: No, we do not, and that is okay. That is why it is important for you to record your own results on the chart. Your partner may have a different number of beats than you. Let’s go ahead and complete the rest of this row.

TEACHER DO: Guide students through sitting for one minute, timing and counting pulse for 15 seconds, then calculating the heart rate for one full minute. Move directly to two minutes.

 **STUDENTS DO:** Follow teacher’s instructions.

TEACHER SAY: One of our questions is whether there will be a difference between the results of 15 seconds, one minute, and two minutes. What have you discovered?

 **STUDENTS DO:** Respond with conclusions.

TEACHER SAY: I wonder if we will always get that result. Now it is time for you to test your hypotheses. When you have completed all of the activities, be sure to complete the questions at the bottom of the page.

TEACHER DO: Give final directions on how to proceed in your classroom. As students work, walk around monitoring progress and assisting as needed. If only one timer is available, make sure all students work at the same pace and call out time increments for the class for both the activities and taking the pulse.

STUDENTS DO: Test and record each activity.





TEACHER DO: As students finish, direct them to answer the questions at the bottom of the page, then facilitate a conversation about the results. This is an opportunity for students to practice the Life Skills: Collaboration and Decision-Making.

TEACHER SAY: I think some of you were surprised at your results. What surprised you the most?

 **STUDENTS DO:** Respond with opinions.

TEACHER DO: Review some of the results as a whole group so students can determine possible reasons for changes in heart rate. Discuss hypotheses, whether each was correct, and why.

TEACHER SAY: Different types of exercise often gave us different results. Exercise makes the heart work harder. The more we work our muscles, the more oxygen they need, so more blood is pumped to them. After this investigation, why do you think exercise good for us?

 **STUDENTS DO:** Share opinions.

TEACHER SAY: Remember, our heart is a muscle. We can strengthen our heart with exercise. The stronger our heart, the better it works. But just like any other muscle, it also needs time to rest.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: It is almost time for us to finish today, but I know we are curious about others' results. Let's take the next few minutes and share our results. Hands Up, Pair Up in groups of three to share your results. Did you prove or disprove your hypotheses?

 **STUDENTS DO:** Discuss similarities and differences of results and conclusions about the hypotheses with two other students.

TEACHER SAY: Today you were scientists and critical thinkers, finding an answer to your questions. Remember that scientists always have a hypothesis before testing an idea. The hypothesis is not always correct. Is that okay?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: We all make mistakes and we learn from them. Yes, scientists often make mistakes and find their hypotheses are incorrect. By testing the hypothesis, the scientist can then move forward to decide what is true and what is not true. Scientists are always learning about the world around us. Let's high five a neighbor for a day of learning well done.

Lesson 8 Overview

LEARNING OUTCOMES

Students will:
- Review learning through a group reflection.
- Identify the steps of the writing process.
- Collaborate to determine individual responsibilities within a group.

KEY VOCABULARY

- Drafting
- Planning
- Publishing
- Revising

MATERIALS

- Brown construction paper or butcher paper
- Construction paper (four colors: red, orange, yellow, blue, or any color except green)
- Tape
- Student books
- Pencils

PREPARATION

Students will create construction paper leaves for a class tree that will show new understandings. Consider where to hang the tree trunk (made from brown construction paper or butcher paper) in the room for easy access by students. The student book page Tree of Health has leaves to be cut out. If you choose, this could be used as a brainstorming page for students to record ideas before copying sentences onto construction paper.

Divide students into groups of six to write the health books. Determine in advance who you will share the books with. Consider inviting another (younger) class or parents to hear the stories written. Another alternative is to have one group read to another.

LIFE SKILLS

Learn to Know

Critical Thinking:
- Identify subject/topic-related information.

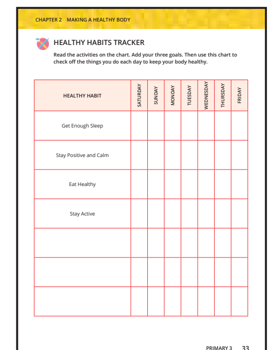
Learn to Live Together

Sharing:
- Effective management and organization of tasks.



Learn (90 minutes)

Directions



CHAPTER 2 MAKING A HEALTHY BODY

HEALTHY HABITS TRACKER

Read the activities on the chart. Add your three goals. Then use this chart to check off the things you do each day to keep your body healthy.

HEALTHY HABIT	SATURDAY	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Get Enough Sleep							
Stay Positive and Calm							
Eat Healthy							
Stay Active							

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1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: It is time for us to complete today's reflection on our Healthy Habits Tracker. Turn to the correct page in your student book and mark your progress.

STUDENTS DO: Mark progress.

TEACHER SAY: Show Thumbs Up about your progress. Thumbs Up means I am doing well. Thumbs in the middle means I am doing okay but I can improve. Thumbs down means I am not doing well.



STUDENTS DO: Use **Thumbs Up** to show progress.

TEACHER SAY: When we began this chapter, we asked: How does the body helps us work and play? We have learned about a few body parts and organs that we use every day. Let's revisit this question. How would you answer the question today? I will choose one student to begin, and then we will Popcorn to other students. Think about how you would like to answer the question: How does our body help us work and play?

TEACHER DO: Choose one student to begin the **Popcorn**.



STUDENTS DO: Share new understandings.

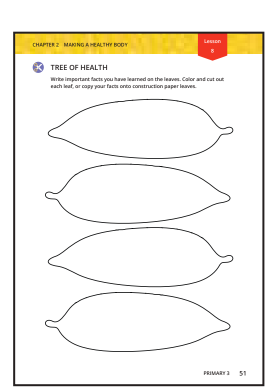
2. **TEACHER SAY: Thank you to those who were able to share. I know more of you wanted to share. We will use all your ideas throughout the day. Remember that our Share Project is to create a book to teach others about how we can keep parts of our body healthy. Today we are going to begin recording what we have learned by creating a visual display. What are the benefits of a class visual display?**



STUDENTS DO: Share ideas.

TEACHER SAY: Yes, instead of writing what we know in each of our books, a display will let us see what we have learned as a class. We can organize our information, then use some of it for our Share Project. We will create a Tree of Health. Our tree will have four main branches, one for each of the body parts we learned about. You will add your knowledge to the tree by summarizing what you have learned on individual leaves.

Note to Teacher: After you determine how you want to display the Tree of Health, adjust the directions accordingly. Decide if students will use the leaves in the student book for display or for drafting before copying sentences to the construction paper leaves.





TEACHER DO: Be prepared to **Model**, showing students each of the branches and how leaves will be added.

TEACHER SAY: Turn to the student book page Tree of Health and read the directions.



STUDENTS DO: Read the directions.

TEACHER SAY: Today we will make a beautiful display of our learning. You will cut out leaves for the tree. Each leaf color will represent a different part of the body.

TEACHER DO: Record on the board one color assigned to each of the body parts. If students are using the student books, make certain each student has crayons or markers in the colors needed to represent that branch on the tree.

TEACHER SAY: Each of you has four leaves. You will write one important fact you learned about each of the body parts: the skin, muscles and bones, the stomach, and the heart. Write one fact on each of the four leaves.

TEACHER DO: Answer any questions before students begin. **Model** writing a sentence on the correct color leaf. Then demonstrate how to attach the leaf to the tree. This is an opportunity for students to practice the Life Skill: Critical Thinking.



STUDENTS DO: Write and cut out four facts on leaves, one about each part of the body.

TEACHER DO: As students finish cutting out leaves and writing sentences, assist in adding leaves to the branches. Allow students to gather around the tree to see what others have written. Direct students back to seats for a brain break when everyone has finished.

TEACHER SAY: What a beautiful tree we have. It will help us remember some of the interesting facts we are learning. Now it is time for a brain break. I will pull a card and that person will come up and lead our brain break.

TEACHER DO: Pull card and ask the student to lead the class in the original brain break.



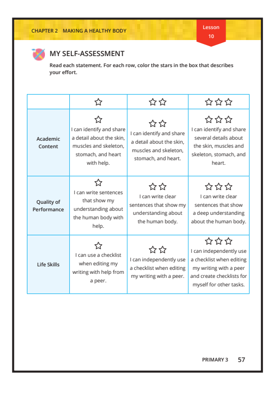
STUDENTS DO: Follow as student leads a brain break.

TEACHER SAY: Your brain breaks always give me energy. Thank you. You have all shown what good learners you are. Now it is time to take what we have learned and share it with others. Who would like to remind us of our Share Project for this chapter?



STUDENTS DO: Tell about creating books for other students.

TEACHER SAY: Yes, we will divide into groups to write a short book about what we have learned. Once you are finished, we will share the illustrated books with other students. Before we begin, let's learn about the expectations for this project. Turn to the page in your student



CHAPTER 2 MAKING A HEALTHY BODY Lesson 10

MY SELF-ASSESSMENT

Read each statement. For each row, color the stars in the box that describes your effort.

	☆	☆☆	☆☆☆
Academic Content	☆ I can identify and share a detail about the skin, muscles and skeleton, stomach, and heart with help.	☆☆ I can identify and share a detail about the skin, muscles and skeleton, stomach, and heart.	☆☆☆ I can identify and share several details about the skin, muscles and skeleton, stomach, and heart.
Quality of Performance	☆ I can write sentences that show my understanding about the human body with help.	☆☆ I can write clear sentences that show my understanding about the human body.	☆☆☆ I can write clear sentences that show a deep understanding about the human body.
Life Skills	☆ I can use a checklist when editing my writing with help from a peer.	☆☆ I can independently use a checklist when editing my writing with a peer.	☆☆☆ I can independently use a checklist when editing my writing with a peer and create checklists for myself for other tasks.

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book, My Self-Assessment. It is the last page of this chapter. Look over the expectations and discuss with your Shoulder Partner.



STUDENTS DO: Review, discuss, and ask questions about the self-assessment with **Shoulder Partner**.

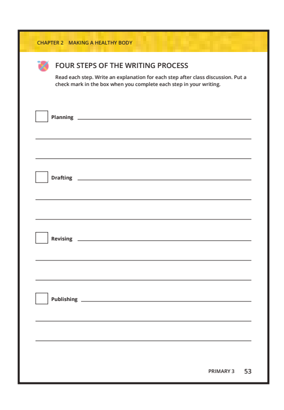
TEACHER DO: Answer any questions prior to beginning work. Make certain all students are seated in groups of six.

TEACHER SAY: You are in groups of six because each of you will have a specific job in writing your story. We will talk about those jobs after we have discussed the steps we will take in writing. Think about the steps you have taken in other grades. We often begin by brainstorming to gather ideas. Who can share with us about the other steps you take in your writing?



STUDENTS DO: Share memories of steps involved in writing.

Note to Teacher: This is a good time to assess students' understanding of the writing process and to begin the transition to the new writing process. There may be different terms for the steps, but the overall process should be fairly familiar. Make certain students make these connections.



CHAPTER 2 MAKING A HEALTHY BODY

FOUR STEPS OF THE WRITING PROCESS

Read each step. Write an explanation for each step after class discussion. Put a check mark in the box when you complete each step in your writing.

☐ Planning ____________________

☐ Drafting ____________________

☐ Revising ____________________

☐ Publishing ____________________

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TEACHER SAY: These are all good steps to being good writers. You have been practicing your writing skills for multiple years in school. Now that you are older and have been working together to improve, your writing will be so much better. Let's review our writing process. Some of the steps we will use this year may sound new to you. Let's open our student books to the page Four Steps of the Writing Process.

We will use the four steps of the writing process to complete our writing. The four steps are planning, drafting, revising, and publishing.

TEACHER DO: Write each of the four steps on the board with room between them for definitions.

TEACHER SAY: You have done many of these steps before. Let's Role Play each step within your group. As a group, Role Play what it will look like when you are planning your writing.



STUDENTS DO: Act out planning by listening to each other, asking for opinions, and so on.

TEACHER DO: Identify behaviors such as those listed above as students **Role Play** the actions of planning.

Note to Teacher: Students like to be acknowledged for doing something well. You may consider naming students and the actions or conversations that demonstrate planning.

TEACHER SAY: Very good. Planning is when we brainstorm ideas. It includes thinking, making notes, and organizing our ideas. It also includes gathering information. Sometimes we do this by ourselves. As we write today, we will follow the steps with our groups.

TEACHER DO: Write the definition on the board. Consider using students' definitions if they describe the steps correctly. Direct students to write the definition in the student book.

TEACHER SAY: What is the next step in the writing process?



STUDENTS DO: Respond (drafting).

TEACHER SAY: Talk with your group. What does it mean to DRAFT your content?

TEACHER DO: Lead a brief discussion and summarize students' ideas. Write a definition on the board such as: Arrange ideas into sentences and paragraphs to keep information well organized for the reader.



STUDENTS DO: Compare the drafting step to previous writing experiences and write the definition in their student books.

TEACHER SAY: The third step of our writing process is to revise. To revise, we review our draft to make sure it is clear and that the language, spelling, and grammar are correct. You will help each other during this process.

TEACHER DO: Write the definition on the board after students have given input.

 **STUDENTS DO:** Discuss and write definition.

TEACHER SAY: In the last step, publishing, we will write the final, corrected copies. This is the copy that others will read. I think you can all write your own definition for the final step. Once you write your definition, share with your Shoulder Partner. Edit your work for each other.

 **STUDENTS DO:** Write own definitions and peer-edit writing.

TEACHER SAY: To complete a book on the body, you will each have a specific part of the body to write about. Let's go over those now.

TEACHER DO: Write the list on the board or show students where they are already listed: skin, muscles and bones, stomach, heart.

TEACHER SAY: As a group, you will decide which topic each student is responsible for. One student will be responsible for writing about the skin, one will write about digestion, two will write together about the heart, and two will write together about muscles and bones. Of course, your group will be there if you need help.

Note to Teacher: As you begin to release responsibility to students, be cognizant of those groups that may need a little more direction than others. Since this is the first group written project for the year, it will be important to help students gain confidence in their role as writer and/or illustrator.

TEACHER DO: Tell students to first consider how they can best help the group. Then decide among the group what role they will take in writing the book. All students will be involved in gathering information and helping to write and edit.

 **STUDENTS DO:** Collaborate to determine writing assignments within the group.

 Sharing

TEACHER DO: Walk around and guide students as needed. This is an opportunity for students to practice the Life Skill: Sharing.

TEACHER SAY: Now that you know what you will each be writing about, who will you be writing for? Who is your audience?

TEACHER DO: At this point, explain to the class who the audience will be for the books and how they will be shared on the last day of the chapter.

 **STUDENTS DO:** Ask any clarifying questions.

TEACHER DO: Lead a brief discussion about the organization of the book. Questions may include:

- What are the important features of an informational text?
- How do you think your book should be organized?
- Does it need a cover?
- What about illustrations? You will be writing important information. Illustrations will be important to help the reader.

If time remains, allow students to begin group discussions about how they can help each other.

3. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: I am proud of how you collaborated today. Let's think back to our life skills. We will begin with Think Time, then you will tell your Shoulder Partner one life skill you demonstrated today. Remember to explain your thinking.

TEACHER DO: Allow **Think Time** and then encourage discussion between students.



STUDENTS DO: Reflect on own behavior.

TEACHER SAY: **Thank you for reflecting together. Today we were able to review what we have learned and begin thinking about our Share Project. We will work through the process together, one step at a time, so be ready in our next lesson to become authors and illustrators.**

Lesson 9 Overview

LEARNING OUTCOMES

Students will:
- Collaborate to write a story about health.
- Utilize the writing process to organize writing.
- Peer edit writing.

PREPARATION

Make certain students are seated in writing groups as determined in Lesson 8.

KEY VOCABULARY

- Writing process

LIFE SKILLS

Learn to Work

Collaboration:
- Respect for other opinions.

Learn to Be

Self-Management:
- Review progress in realizing goals.

Accountability:
- Provide effective feedback.

Communication:
- Reading, writing, non-verbal communication skills.

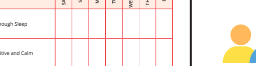
MATERIALS

- Student books
- Pencils
- Crayons for highlighting



Share (90 minutes)

Directions





1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **It is time for us to complete today's reflection on our Healthy Habits Tracker. Turn to the correct page in your student book and mark your progress.**

STUDENTS DO: Mark progress.

TEACHER SAY: **Please turn to your Shoulder Partner and tell what strategy you will use today to work on staying focused and on track.**



STUDENTS DO: Discuss strategies with **Shoulder Partner**.

TEACHER SAY: **In our last lesson, you were able to review some of the many things you learned in this chapter. Now that we have learned so much about our body, what are you still curious about? I will choose one student. That student will share, then choose three other students to share more questions. Remember that we are thinking about something we still wonder.**

TEACHER DO: Use **Calling Sticks** to choose one student to share and then call on three others. Invite the student to come to the front of the room to be the teacher helper. Guide as needed.



STUDENTS DO: Share questions and explain as needed.

TEACHER SAY: **I appreciate that you still have questions. I hope you will research those questions on your own. Please let us know if you find an answer so we can share it with the class.**

Note to Teacher: Encourage students to explore and find answers to their questions. As students present answers, ask where they found the answer to validate whether the source is factual.

2. TEACHER SAY: In our last lesson, we reviewed the writing process. Let's open our student books to the page Four Steps of the Writing Process. Read the first step, planning, to think about how we will begin today.



STUDENTS DO: Read and reflect.

TEACHER SAY: You have already decided your writing topics within the group. Let's check to make certain everyone remembers.

TEACHER DO: Name each of the four topics, asking students to raise their hands if that is their assignment. This is a way to check that all students know their assignments and all groups are ready to begin.



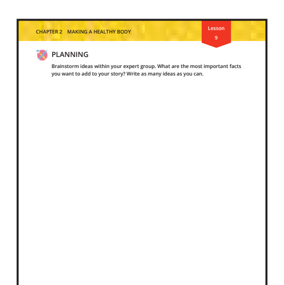
STUDENTS DO: Raise hands to acknowledge.

3. TEACHER SAY: It can be difficult to begin on your own, so we will Jigsaw our groups to make certain everyone has the information they need.

TEACHER DO: Explain that students will form expert groups to gather information about the assigned topic. As an example, all students writing about skin will meet together to share important knowledge. Students will individually decide what information to include in their own writing.



STUDENTS DO: Ask any clarifying questions.



CHAPTER 2 MAKING A HEALTHY BODY

Lesson 9

PLANNING

Brainstorm ideas within your expert group. What are the most important facts you want to add to your story? Write as many ideas as you can.

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TEACHER SAY: Before we Jigsaw to the expert groups, look in your student book for the page Planning. Read the directions as we all get ready.

TEACHER DO: Read the directions as a whole group if needed. Students may also read with their **Shoulder Partner**.



STUDENTS DO: Ask clarifying questions.

TEACHER SAY: Now we know what we will do. What behaviors will help us all be successful?



STUDENTS DO: Explain expectations for behavior.

TEACHER DO: Allow students to lead discussion. When finished, direct students to specific areas of the room for expert groups. Since two students in each group are assigned to the heart and muscles and bones topics, you may wish to split these expert groups into smaller groups so all students will have an opportunity to talk. After students have moved to the designated area for each expert group, call for everyone's attention to provide specific directions.



STUDENTS DO: Move to assigned area, sitting in groups where students can hear each other.

TEACHER SAY: You will have about 10 minutes to share the most important things you have learned about your body type. Remember that you may refer to our Tree of Health for information. Be sure to be good listeners and write down as many ideas as you can. You will decide which ideas you will use for your story later.



STUDENTS DO: Listen and record a variety of ideas.



TEACHER DO: Walk around, making certain each group is on task. Encourage students to add details as needed. After approximately 10 minutes, ask students to return to their seats. This is an opportunity for students to practice the Life Skill: Collaboration.

4. TEACHER SAY: Part of the planning step is to decide what details to add to your writing. Now that you have ideas, you will work independently. Circle three or four ideas you want to use.

 **STUDENTS DO:** Work silently to select information.

TEACHER DO: Monitor students, making certain all students have what is needed to complete their portion of the story. The student pairs writing about muscles and bones and the heart will work independently at this point but will collaborate with their partners next to decide on four facts. Allow about three to five minutes for this step.

TEACHER SAY: Now that you have ideas, let's get some feedback from your teammates. Everyone will take turns sharing ideas with their team. Be good listeners and help your team when needed. You will have five minutes.

 **STUDENTS DO:** Communicate ideas within the team.

TEACHER DO: Observe student interactions. Encourage the two students working together on one body organ to agree on the same three or four facts. Adjust the time according to the needs of your students.

5. TEACHER SAY: You have made a lot of progress. It is time for a brain break before we begin the next step in the writing process.

TEACHER DO: Direct students to stand, making room around them for movement.

TEACHER SAY: I will pull a card to see who will lead our brain break.

TEACHER DO: Pull card and help a student lead the class.

 **STUDENTS DO:** Follow as a student leads a brain break.

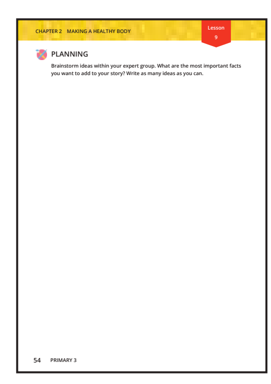
TEACHER DO: Direct students to return to their seats.

6. TEACHER SAY: Now that we have given our brain a break, let's get ready for our next step. Turn in your student book to the page Drafting. Read the directions and be prepared to listen.

 **STUDENTS DO:** Read directions.

TEACHER SAY: On this page, we will organize our information. This includes writing it in complete sentences and putting it together in a paragraph. Everyone, point to the line that says, "Important facts to know." Check with everyone in your group to make sure you are all looking at the same section.

 **STUDENTS DO:** Point to sentence and help teammates as needed.



TEACHER SAY: In the planning step, you decided which facts to use in your writing. Now it is time to organize those facts. Turn back to the page Planning. Decide in what order you should put the facts. Write the numbers 1, 2, 3, or 4 next to each of the facts you have chosen to use. Ask your group for help if you need it.

 **STUDENTS DO:** Order facts and give feedback as needed in groups.

TEACHER DO: Observe students. Allow three to five minutes for students to make choices and help each other in the groups. Prepare to **Model** writing a paragraph by writing three ideas on the board, numbering the order.

TEACHER SAY: I am going to Model for you what I would do next if I were writing. I have written three ideas on the board and numbered them. This tells me in what order I want to put my facts. Next I have to think about a sentence for each.

TEACHER DO: **Model** using the **Think Aloud** strategy. Use the idea numbered 1 and **Think Aloud** how you will add descriptive words to form a complete sentence with correct grammar. Write the new sentence on the board. Tell students you would then continue to write a sentence for each fact to compose a paragraph. This is an opportunity for students to practice the Life Skill: Communication.



STUDENTS DO: Observe and ask questions.

TEACHER SAY: Now it is your turn. If you are working with a partner on one page, whisper as you talk, and both of you should write the same sentences in your student book. It should be quiet so each of us can put our ideas together.



STUDENTS DO: Write three or four sentences.

TEACHER DO: Help students who have difficulty writing. Consider writing a dictated sentence for struggling students. Allow about 10 minutes for this step.

7. TEACHER SAY: I see some excellent work. We have the biggest part finished. Let's go back now and think about how to begin our paragraph. We only need one sentence. This sentence should describe what the rest of the paragraph is about. I will use my writing as an example.

TEACHER DO: Write a beginning sentence with the help of students. As an example: The heart is one of the most important organs in our body. Invite students to share orally ideas for their opening sentences. Direct students to write the opening sentence in the student book. Allow five minutes for individual writing.



STUDENTS DO: Assist teacher with ideas and then write opening sentences.

8. TEACHER SAY: We are almost finished. Reread your paragraph so far. You will need one closing sentence to end it. How will you end your paragraph?

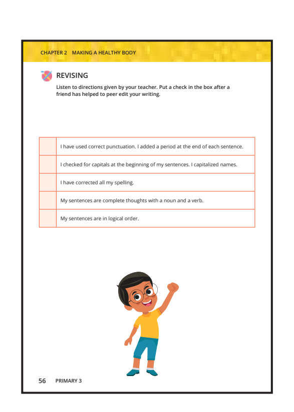


STUDENTS DO: Reread and think about closing sentences.

TEACHER DO: Invite students to share ideas orally. **Model** as needed, writing a closing sentence for your paragraph. Direct students to write closing sentences. Allow approximately five minutes.



STUDENTS DO: Write closing sentences.



CHAPTER 2 MAKING A HEALTHY BODY

REVISING

Listen to directions given by your teacher. Put a check in the box after a friend has helped to peer edit your writing.

	I have used correct punctuation. I added a period at the end of each sentence.
	I checked for capitals at the beginning of my sentences. I capitalized names.
	I have corrected all my spelling.
	My sentences are complete thoughts with a noun and a verb.
	My sentences are in logical order.

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9. TEACHER SAY: You have finished writing your paragraphs. I am really excited to see your writing. We have just enough time to share our paragraphs and ask for feedback. Turn to the next page in your student book, Revising. I will go over the page with you before you begin.

TEACHER DO: Read the directions and each of the descriptors. Explain each line by asking students to check the work you have written on the board. **Think Aloud** as you make any changes. Consider making at least one spelling and punctuation error for students to correct.



STUDENTS DO: Guide teacher in correcting the sample writing.

TEACHER SAY: Now it is time to check your writing. Work with your Shoulder Partner. Make the corrections to your own work. Listen to each other's ideas.



STUDENTS DO: Peer-edit writing. (This is an opportunity for students to practice the Life Skill: Accountability.)

Note to Teacher: It is okay if students do not find all errors. This is one of the first large writing assignments for P3 students and will provide evidence of where they are starting so that growth can be documented throughout the year.

10. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: I hope you are all proud of what you have accomplished today. In our final lesson, we will publish, which means we will write our final copies and illustrate our work. You will then share your books. Let's close today by sharing the life skill you used the most today with your Shoulder Partner.



STUDENTS DO: Share how life skills were used in the writing process.

Lesson 10 Overview

LEARNING OUTCOMES	MATERIALS	LIFE SKILLS

LEARNING OUTCOMES

Students will:
- Complete the writing process with a final rewrite.
- Speak confidently when sharing.
- Reflect and self-assess quality of work and use of life skills.

MATERIALS

- Student books
- Pencils
- Crayons or colored pencils
- Lined paper for books
- White paper for books

LIFE SKILLS

Learn to Live Together

Sharing:
- Effective management and organization of tasks.

Learn to Be

Self-Management:
- Review progress in realizing goals.

PREPARATION

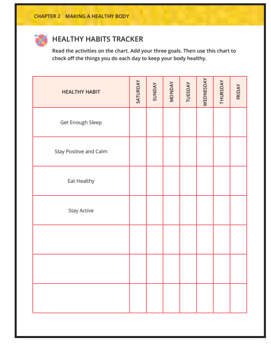
Make certain students are seated in writing groups. Have prepared on the board a sample final copy that includes a model title page and internal paragraph for students to see.

If possible, allow students to use a word processing application and/or graphics application to create the pages for the books.
Invite another class in so students can share stories. If you are unable to bring in other students, have groups in the class share with one another.



Share (90 minutes)

Directions



CHAPTER 2 MAKING A HEALTHY BODY

HEALTHY HABITS TRACKER

Read the activities on the chart. Add your three goals. Then use this chart to check off the things you do each day to keep your body healthy.

HEALTHY HABIT	SATURDAY	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Get Enough Sleep							
Stay Positive and Calm							
Eat Healthy							
Stay Active							



1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **Let's start today's lesson with our final entry in our Healthy Habits Tracker.**

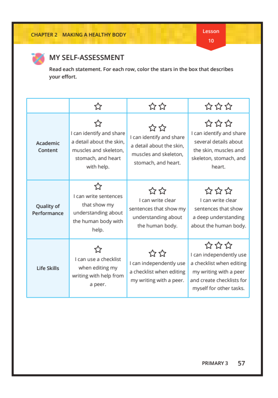
 STUDENTS DO: Make final mark in tracker.

TEACHER DO: Thank students for being responsible and reflecting on healthy habits throughout the chapter. Ask if they were able to reach the goals they made on the first day and about any plans to continue for the coming weeks. Allow time for a brief discussion.

 STUDENTS DO: Reflect on practices. (This is an opportunity for students to practice the Life Skill: Self-Management.)

TEACHER SAY: **Today is our day to share our stories. We are almost finished with the writing process. Who can share the steps we have already finished in the writing process?**

 STUDENTS DO: Share the first three steps in the writing process.



CHAPTER 2 MAKING A HEALTHY BODY Lesson 10

MY SELF-ASSESSMENT

Read each statement. For each row, color the stars in the box that describes your effort.

	☆	☆☆	☆☆☆
Academic Content	☆ I can identify and share a detail about the skin, muscles and skeleton, stomach, and heart with help.	☆☆ I can identify and share a detail about the skin, muscles and skeleton, stomach, and heart.	☆☆☆ I can identify and share several details about the skin, muscles and skeleton, stomach, and heart.
Quality of Performance	☆ I can write sentences that show my understanding about the human body with help.	☆☆ I can write clear sentences that show my understanding about the human body.	☆☆☆ I can write clear sentences that show a deep understanding about the human body.
Life Skills	☆ I can use a checklist when editing my writing with help from a peer.	☆☆ I can independently use a checklist when editing my writing with a peer.	☆☆☆ I can independently use a checklist when editing my writing with a peer and create checklists for myself for other tasks.

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TEACHER SAY: **Before we begin, let's go back and look at the rubric to make certain our goals are reached. Turn to My Self-Assessment and review your paper as you review the rubric.**

 STUDENTS DO: Review rubric and writing.

TEACHER DO: Distribute the paper available for composing final books.

TEACHER SAY: **Now it is time for you to write your final copy. You will use the revisions you made to your draft in the previous lesson. Take time to copy all the words, one sentence after another. When you finish your writing, you will add an illustration.**

Note to Teacher: If computers are available for students to use, adjust the directions according to the needs of your class.

 **Sharing**

TEACHER DO: Point to your sample paragraph, showing the sentences and punctuation used. Answer any questions students may have. Tell students that an illustration will be needed for each of the topics. If students are working in pairs, one may write while the other illustrates the paragraph. This is an opportunity for students to practice the Life Skill: Sharing.

 **STUDENTS DO:** Work independently or with partner to complete writing.

TEACHER SAY: We know that the words and images in books both provide important information. Now that you are finished with writing and revising your text, spend a few minutes creating an illustration that will help your readers understand what you wrote.

 **STUDENTS DO:** Illustrate the text.

Note to Teacher: If time allows, facilitate adding a caption to the illustrations, using examples in informational texts provided in the student book and other resources as available.

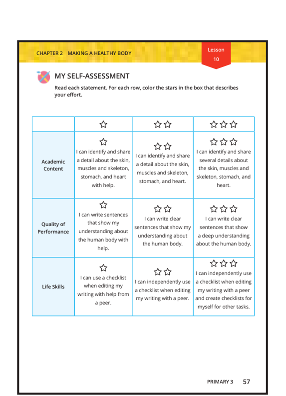
TEACHER DO: Prepare a sample of a title page to post for students to copy. Include the title of the book and the name of each student in the group. Guide groups to complete a title page, organize the informational pages, and staple them together. While waiting for everyone to finish, students can practice reading text and sharing illustrations with each other.

TEACHER SAY: I am so excited to read your stories. Now it is time for you to share with others.

TEACHER DO: Explain the process and expected behaviors with students. Tell students they will each read their own writing and share illustrations. Discuss speaking behaviors and how to share illustrations with the audience. Direct students to specific areas in the room to share.

 **STUDENTS DO:** Read, share illustrations, and listen.

TEACHER DO: After sharing the stories, encourage students to give two comments to the group, one positive and one question or suggestion for improvement. Bring students back to the whole group after sharing.



CHAPTER 2 MAKING A HEALTHY BODY

Lesson 10

MY SELF-ASSESSMENT

Read each statement. For each row, color the stars in the box that describes your effort.

	☆	☆☆	☆☆☆
Academic Content	☆ I can identify and share a detail about the skin, muscles and skeleton, stomach, and heart with help.	☆☆ I can identify and share a detail about the skin, muscles and skeleton, stomach, and heart.	☆☆☆ I can identify and share several details about the skin, muscles and skeleton, stomach, and heart.
Quality of Performance	☆ I can write sentences that show my understanding about the human body with help.	☆☆ I can write clear sentences that show my understanding about the human body.	☆☆☆ I can write clear sentences that show a deep understanding about the human body.
Life Skills	☆ I can use a checklist when editing my writing with help from a peer.	☆☆ I can independently use a checklist when editing my writing with a peer.	☆☆☆ I can independently use a checklist when editing my writing with a peer and create checklists for myself for other tasks.

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TEACHER SAY: Now let's assess our own progress. Turn to the next page in your student book, My Self-Assessment. Read the page and reflect on your learning for this chapter.

TEACHER DO: If needed, guide students step-by-step through the assessment.

 **STUDENTS DO:** Reflect on learning through the chapter.

2. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Thank you for working so well together. Please turn to the group member on your right and share how he or she helped you during this chapter. Make sure everyone in the group hears how they have helped another group member.

 **STUDENTS DO:** Thank each other.

TEACHER SAY: What a great way to end our chapter. I am so very proud of you and the work you have done. You have worked together and demonstrated how much you have learned to help us all be strong Primary 3 students. In the next chapter we will learn more about health and how we can keep our bodies healthy.

Rubric Assessment (for teacher use)

	Approaching Expectation (1)	Meeting Expectation (2)	Exceeding Expectation (3)
Academic Content	Identifies the skin, muscles and skeleton, stomach, and heart with support from peers or the teacher. Shares a basic detail about each. *Science C.1.a.*	Identifies the skin, muscles and skeleton, stomach, and heart. Shares a basic detail about each. *Science C.1.a.*	Identifies the skin, muscles and skeleton, stomach, and heart. Shares multiple details about each. *Science C.1.a.*
	Writes informational text that includes details to show understanding with support from peers or the teacher. *Writing C.1.a.*	Writes informational text that includes details to show clear understanding. *Writing C.1.a.*	Writes informational text that includes thoughtful details to show clear understanding. *Writing C.1.a.*
	Improves writing after receiving feedback with support from peers or the teacher. *Writing D.1.b and c*	Improves writing after receiving feedback from peers. *Writing D.1.b and c*	Improves writing after receiving feedback from peers and supports others in revising their writing. *Writing D.1.b and c*
	Creates artwork that does not help to support the reader's understanding of the body part. *Visual Art B.1.c.*	Creates artwork that supports the reader's understanding of the body part. *Visual Art B.1.c.*	Creates detailed artwork that supports the reader's understanding of the body part in a unique way. *Visual Art B.1.c.*
Quality of Performance	Organizes facts about the human body in a logical order with support from peers or the teacher.	Organizes facts about the human body in a logical order.	Organizes facts about the human body in a logical order. Shows originality or exceptional creativity.
	Communicates basic information about the human body but with little clarity and/or detail. *Science A.1.g.*	Communicates information about the human body clearly, with sufficient detail. *Science A.1.g.*	Communicates information about the human body clearly, with exceptional detail and clarity. *Science A.1.g.*
Life Skills	Uses a checklist to assist with peer editing when supported by peers or the teacher. *Sharing*	Uses a checklist effectively to assist with peer editing. *Sharing*	Uses a checklist effectively to assist with peer editing. Develops checklists independently to assist with other tasks. *Sharing*
	Manages the process of writing by following the steps of the writing process when guided by the teacher. *Productivity*	Manages the process of writing by following the steps of the writing process using a graphic organizer. *Productivity*	Manages the process of writing by following the steps of the writing process independently. *Productivity*

PRIMARY 3

Multidisciplinary

WHO AM I?

LIVING HEALTHY

Chapter 3: Get Fit with Healthy Eating

Chapter Overview

Get Fit with Healthy Eating

COMPONENT	DESCRIPTION	LESSONS
Discover	Students discover new applications for previous learning about healthy habits. Students use prior learning experiences to plan a healthy space for students to play and work at school.	2
Learn	Students research important nutrients the body needs to be healthy. Students learn how to read nutrition information on packaging labels and use it to make healthy choices. Students design and test different materials for storing food at the canteen.	6
Share	Students synthesize learning about healthy choices by creating a collaborative plan for a canteen at the school. Students present the plan in both written and oral forms.	2

Connection to Issues



Health and Population: We need to stay healthy. We can learn to improve our nutrition, health, and fitness. We are learning about our growing world population.

Environment and Development: Our earth and environment need to be sustained. We can appreciate and care for the environment as a community.

Life Skills Addressed



DIMENSION	DESCRIPTION
Learn to Know	**Critical Thinking:** • Identify subject/topic-related information. • Explain thinking processes.
Learn to Work	**Collaboration:** • Respect for other opinions. **Decision-Making:** • Identify results and expected results.
Learn to Live Together	**Sharing:** • Effective management and organization of tasks.
Learn to Be	**Self-Management:** • Review progress in realizing goals. **Accountability:** • Provide effective feedback. **Communication:** • Reading, writing, non-verbal communication skills.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

D. Reading Skills: Fluency

1.a. Read texts at grade-appropriate difficulty with a level of accuracy and fluency to support understanding.

E. Reading Comprehension: Literature

1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
4.b. Identify the main ideas and sub-ideas in a paragraph.
5.b. Differentiate between reality and fantasy in a text.

F. Reading Comprehension: Informational Text

1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
4.a. Ask and answer questions to define the meaning of academic and subject-specific words and phrases.
5.b. Use visual representations and information contained in a text to describe its basic ideas.

WRITING:

A. Foundational Skills

1.a. Write complete sentences using punctuation, prepositions, and coordinating conjunctions (such as و, ثم, ف) as appropriate.

D. Process, Production, and Research

2.b. Participate in collaborative research.

SPEAKING AND LISTENING:

A. Foundational Skills

1.a. Engage effectively in a range of collaborative discussions with peers and adults in small and larger groups.
1.b. Follow agreed-upon rules for discussions.
1.c. Listen to the speaker with interest and attention until the end of the statement or story.
1.e. Listen to speakers in order to make connections; comprehend; and gain, clarify, or deepen understanding of a topic or issue.
1.f. Build on others' ideas in discussion and express own ideas clearly.
2.a. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details.

SCIENCE:

A. Skills and Processes

1.a. Ask questions that can be investigated using simple tests.
1.b. Design simple investigations to collaboratively produce data that answers a question.

B. Earth and Space

1.a. Describe how humans use and depend on natural resources.

D. Physical Science

1.a. Test the properties of various materials.
1.b. Analyze the suitability of various materials for an intended purpose.

SOCIAL STUDIES:

B. Historical Thinking and Knowledge

1.d. Explain the structure and purpose of a timeline to document chronology.

VISUAL ART:

A. Producing Visual Art

2.b. Demonstrate safe and responsible use of materials, tools, and equipment for making art.
2.c. Add details to a work of art to enhance what is communicated.
3.b. "b. Represent places that are part of everyday life through art."

B. Presenting Visual Art

1.c. Create and explain works of art that express content learned in other curricular areas.

ECONOMICS AND APPLIED SCIENCES:

C. Nutritional Health and Food Science

1.a. Identify types of nutrients (such as protein, fat, carbohydrates, and vitamins).
1.b. Describe negative consequences of eating too much sugar or fat.
1.c. Describe the benefits of drinking water.
2.a. Explain what health information can be found on food packaging.
2.b. Describe the proper way to store various types of food.

VOCATIONAL FIELDS:

A. Career Social Skills and Preparation

1.a. Identify and demonstrate good interpersonal skills at school and home (including in different vocational activities).
1.b. Work cooperatively with a group of students to accomplish a task (including tasks related to vocations).

INFORMATION AND COMMUNICATION TECHNOLOGIES:

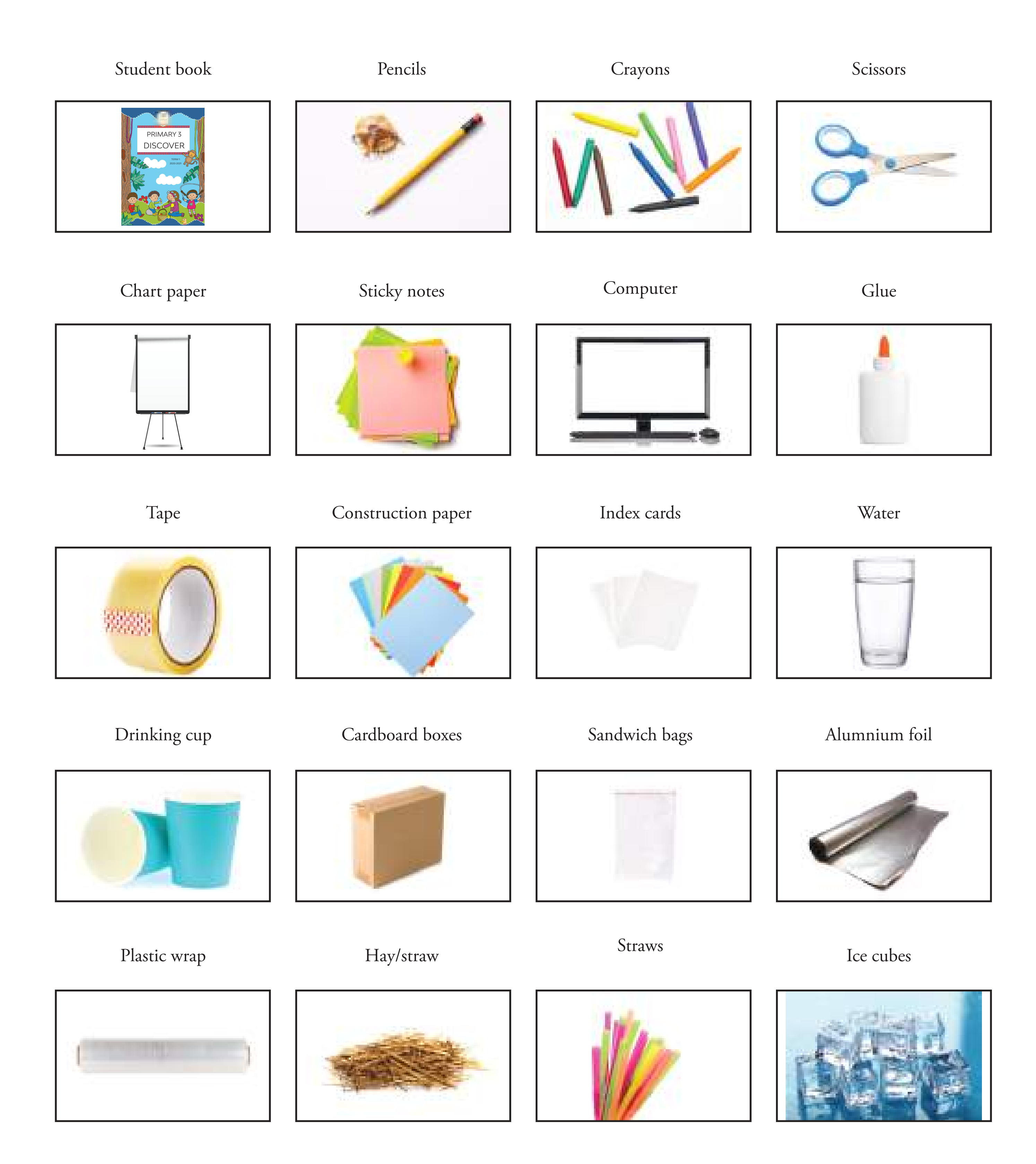
C. Technological Production Tools

1.b. Use age-appropriate online tools and resources (such as a tutorial, assessment, or web browser).
2.b. Use digital sources to search for and collect content to answer a specific question.

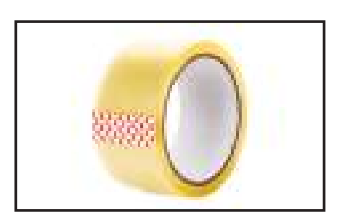
CH 3 Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	**DISCOVER: Students will:** • Identify healthy habits by reviewing previous learning. • Plan a healthy space for the school.
2	**DISCOVER: Students will:** • Identify personal connections to fictional characters. • Create a list of questions to complete a task. • Categorize a variety of foods.
3	**LEARN: Students will:** • Define and explain vocabulary words. • Analyze nutrients found in current diet. • Research a nutrient and identify foods in which it is found.
4	**LEARN: Students will:** • Create a collage to show foods containing certain nutrients. • Identify nutrients found in specific foods.
5	**LEARN: Students will:** • Compare and contrast fresh and processed foods. • Determine effects of sugar on the body. • Discover alternatives to fresh fruits and vegetables.
6	**LEARN: Students will:** • Interpret nutrition information on food packaging. • Use nutrition facts on a packaging label to determine if the food is healthy.
7	**LEARN: Students will:** • Explain the importance of drinking water. • Design a way to educate others about the importance of drinking water. • Set goals for drinking water every day.
8	**LEARN: Students will:** • Use a design process to make a container to keep food cold. • Collaborate with others to give and receive peer feedback.
9	**SHARE: Students will:** • Collect data to determine effectiveness of a design. • Trace a timeline of food storage through history.
10	**SHARE: Students will:** • Synthesize learning about healthy choices to develop a plan for a canteen. • Present elements of the canteen plan in both written and oral forms.

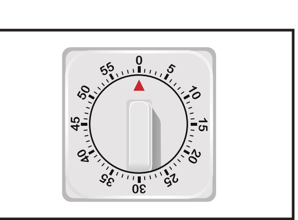
Materials Used



Tape



Timer



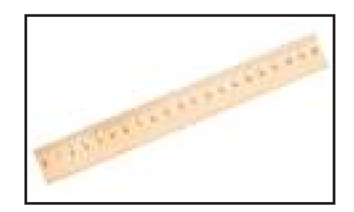
Thermometer



Camera



Ruler



Lesson 1 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify healthy habits by reviewing previous learning. • Plan a healthy space for the school.	• Canteen	• Student books • Pencils • Crayons

PREPARATION

Students will make collages of foods representing various nutrients in Lesson 4. Bring in or ask students and families to bring in magazines, market ads, and so on, that students can use.

LIFE SKILLS

Learn to Know

Critical Thinking:
- Explain thinking processes.

Learn to Work

Collaboration:
- Respect for other opinions.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter.

TEACHER SAY: **Today we are beginning the third chapter in our Healthy Living theme. Let's take a few minutes to review our student books and remember what we have already learned about health.**

 STUDENTS DO: Take out student books, review, and discuss with nearby students.

TEACHER DO: Provide more structure, such as suggesting specific pages or pacing, if needed. Otherwise, allow students to organize their own review time.

TEACHER SAY: **I will use Calling Sticks to choose a discussion leader.**

TEACHER DO: Use **Calling Sticks** to select a student to join you in the front of the room. Be prepared to record students' responses on the board.

TEACHER SAY: **Our discussion leader will use Calling Sticks and I will record your answers on the board. If your name is called, you will be answering the question: What important information have you learned that will help you be a healthy person?**

 STUDENTS DO: Respond with a variety of answers from the first two chapters in the theme.

TEACHER DO: Record students' responses on the board. Guide the student leader to take answers from six to eight students. After the discussion, thank the discussion leader before asking him or her to sit back down.

TEACHER SAY: **We have learned a lot so far this year. I especially appreciate that as a class you have become a good team of collaborators. You demonstrated that you can listen to each other's opinions respectfully.**



TEACHER DO: Identify the behavior as collaboration, reminding students of the life skills introduced in Chapter 1. This is an opportunity for students to practice the Life Skill: Collaboration.

TEACHER SAY: We have a very good list that will help us as we begin our third chapter, "Get Fit with Healthy Eating." In the last chapter, we learned about and kept track of our healthy habits. How do you think your tracker might help us as we begin this chapter, "Get Fit with Healthy Eating?"

TEACHER DO: As students begin to make connections, encourage students to use evidence and explain ideas. Encourage students to build upon each other's ideas.

 **STUDENTS DO:** Make connections between the tracker and healthy eating.


CHAPTER 3 GET FIT WITH HEALTHY EATING

Lesson 1

A CANTEEN AT SCHOOL

Read the story below. Circle unfamiliar words.

"Mother! Father! Where are you?" Rashad yelled as he slammed the front door closed.

"Rashad, please do not slam the door. We are here. Did you have a good day at school?" asked his mother.

"Yes, Mother. I had a very good day at school. Do you remember that we are learning about health in class?" replied Rashad as he chose a piece of fruit from the plate on the table.

Mother turned to Rashad with a smile. "I remember. I am very happy you are learning about health. I notice you are choosing much better foods for your snacks. What did you learn today that has made you so excited?"

"Since we have worked so hard, our teacher asked if we would like to have a canteen at school. Do you know what a canteen is?" Rashad hopped around his mother, waiting for an answer.

"Yes. It is a place to get food, such as snacks. Usually you pay for the food at a canteen. Will you be getting a canteen at school?" Mother seemed surprised to hear this news.

"Our teacher is wondering what foods we would want to have in a canteen. It is our assignment to give him ideas. I hope we can have a canteen. I think it would be fun. I should get started brainstorming." Rashad ran to the table to begin his list of foods for a canteen.

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2. TEACHER SAY: I think you have some good ideas. Let's begin our chapter by reading a story about Rashad's day at school. Maybe it will give us some ideas about our new topic. Please turn to the page, A Canteen at School. Read and follow the directions. We will come back together when everyone has finished.

TEACHER DO: Direct students to read the story individually. Differentiate instruction according to the needs of students. Some students may read with a partner, or you may choose to have a small group read together.

 **STUDENTS DO:** Read text and circle unfamiliar words.

TEACHER SAY: Are there any words that you did not know or understand in this story?

 **STUDENTS DO:** Share unfamiliar words.

TEACHER DO: Discuss the unfamiliar words with the whole group. Write the words on the board and sound them out with students. Invite students to define the words. Explain any new words as needed.

TEACHER SAY: It sounds as though Rashad is learning about health, just like we are. Let's discuss what we read.

TEACHER DO: Call on students to answer comprehension questions, such as the following:

- What in the story tells us how Rashad feels as he walks in the door?
- Why is Rashad excited?
- Where is the word "canteen" explained in the story?
- Why do you think Rashad's mother is surprised about having a canteen at school?
- What is Rashad's assignment for school?

 **STUDENTS DO:** Answer questions and provide evidence for responses directly from the text.

3. TEACHER SAY: Rashad seems to be excited. Do you think having a canteen at a school is a good idea? Why or why not? Talk to a few students around you.

TEACHER DO: Encourage students to think about the positive and negative effects of having a canteen.

Note to Teacher: If your school already has a canteen, modify the discussion here and below to acknowledge the real-life example in addition to the abstract concept. Consider adapting the audience for the list of healthy foods in the Share Project from "helping Rashad choose" to "recommending a list for our own canteen to sell one day a week."

 **STUDENTS DO:** Discuss the idea of a canteen in small groups.

TEACHER SAY: I hear some really good ideas. This discussion will help us with our Share Project, which will be to design a canteen for a school where we can encourage healthy habits. Before we begin working on the canteen, let's think about designing a healthy space in general for our school. Review the habits you tracked in the last chapter. Did you find any of the habits difficult to follow during the school day? Share thoughts with your Shoulder Partner.

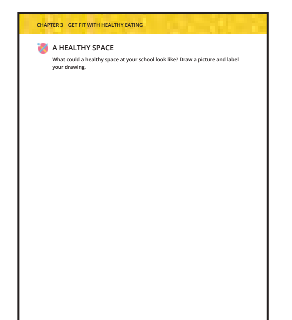
 **STUDENTS DO:** Share ideas and experiences with **Shoulder Partner**.

TEACHER DO: Refer students to review individual healthy habit trackers in the student books.

TEACHER SAY: **Looking at the suggested habits and the habits you added to the tracker, do you think any of those ideas could help us design a healthy space at school? What kind of spaces could help you follow the healthy habits at school?**

 **STUDENTS DO:** Assess the usefulness of ideas on the trackers for creating a healthy space in school.

Note to Teacher: Because the share project for this chapter has been introduced as designing a canteen that provides healthy snacks, students may be limited in their thinking about what "healthy" means. Encourage students to broaden their ideas of health beyond food choices to exercise, respectful behavior, avoiding stress and staying calm, and so on. The brainstorming exercise that follows should include various aspects of health, so encourage creativity and original thinking.


CHAPTER 3 GET FIT WITH HEALTHY EATING

A HEALTHY SPACE

What could a healthy space at your school look like? Draw a picture and label your drawing.

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4. TEACHER SAY: **It will be so much fun to create our own healthy space. Let's start brainstorming by sketching what a healthy space might look like. Turn to the next page in your student book, A Healthy Space. Read the directions and then show me you are ready by putting your pencil down and waiting for the next direction.**

TEACHER DO: Help students as needed.

TEACHER SAY: **It can sometimes be difficult to imagine ideas by yourself. Let's Hands Up, Pair Up to share some of our ideas. After about two minutes, I will signal to you and we will change partners. This will be a time to share and to listen to others' ideas.**

TEACHER DO: Determine a signal, such as turning on or off music or a pattern of hand clapping. Students should stop and listen for the next direction when the signal is given. Be sure students are aware of the signal and the procedure before starting the first discussion group. Tell students to share ideas and explain why the areas in the space would be important. This is an opportunity for students to practice the Life Skill: Critical Thinking.

 **STUDENTS DO:** Share and listen to ideas to create a healthy space at school.

TEACHER SAY: **Now it is your turn to use your imagination to draw a healthy space you would like to have here at school. You may build on others' ideas, use only your own, or any combination. Draw your plan first in pencil in your student book. Be sure to add details. If you have time after completing your drawing, add color.**

 **STUDENTS DO:** Imagine and create a healthy space for school.

TEACHER DO: Monitor student work. If any students are having difficulty imagining a space, prompt with questions or allow working with another student.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: **It sounds like you already have a lot of good ideas for a healthy space. In our project, we will also help Rashad choose healthy foods to offer in his canteen and explain to students how each food is good for our bodies. What do you think we need to learn in order to help Rashad?**

 **STUDENTS DO:** Share ideas.

TEACHER DO: Record essential questions or identified gaps in knowledge on chart paper and consider consulting the list throughout the chapter to assess progress. If students identify essential learning that is not included in the following lessons of the chapter, consider extending student learning experiences as feasible.

Lesson 2 Overview

LEARNING OUTCOMES
Students will: • Identify personal connections to fictional characters. • Create a list of questions to complete a task. • Categorize a variety of foods.

PREPARATION
Students will make collages of foods in Lesson 4. Bring in or ask students and families to bring in magazines, market ads, and so on, that students can use.

KEY VOCABULARY
• Sort

LIFE SKILLS
Learn to Work
Collaboration: • Respect for other opinions.
Learn to Be
Accountability: • Provide effective feedback.

MATERIALS
• Student books • Pencils • Scissors • Chart Paper • Small sticky notes



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In our last lesson, you designed a plan for a healthy space for our school. To start today, let's share a few of those plans. I will choose students to share with Calling Sticks.**



TEACHER DO: Call on three or four students to share. After each student shares, ask one student to provide positive feedback and another student to build on or extend the idea. This is an opportunity for students to practice the Life Skill: Accountability.

 STUDENTS DO: Provide feedback.

TEACHER SAY: **What a great way to show that you appreciate each other's ideas. When I see or hear someone else's ideas, I am able to understand better. It helps me think about how to improve my own ideas.**

2. TEACHER SAY: **In our last lesson, we talked about our Share Project. Your drawings of a healthy space for our school are helping us begin thinking about the project. In the story, Rashad was excited about a canteen for the school. Please turn to your Shoulder Partner and discuss your understanding of the word CANTEEN.**

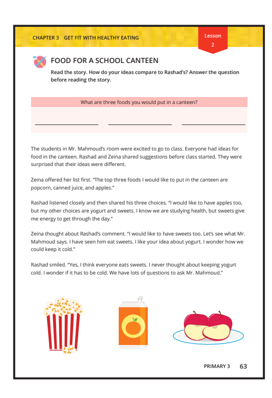
 STUDENTS DO: Explain understanding of canteen.

TEACHER DO: After students have had a chance to discuss, choose one or two students to define and explain why a canteen might be one part of a healthy space at school.

TEACHER SAY: **I wonder. Rashad's assignment was to give ideas for food in a canteen. What kinds of snack foods would you like to have in a canteen? Let's Popcorn our responses.**

TEACHER DO: Allow a number of responses without discussion. If your school already has a canteen, ask students to name favorite snacks they currently enjoy from the canteen.

 **STUDENTS DO:** Listen and share ideas.


CHAPTER 3 GET FIT WITH HEALTHY EATING

Lesson 2

FOOD FOR A SCHOOL CANTEEN

Read the story. How do your ideas compare to Rashad's? Answer the question before reading the story.

What are three foods you would put in a canteen?

The students in Mr. Mahmoud's room were excited to go to class. Everyone had ideas for food in the canteen. Rashad and Zeina shared suggestions before class started. They were surprised that their ideas were different.

Zeina offered her list first. "The top three foods I would like to put in the canteen are popcorn, canned juice, and apples."

Rashad listened closely and then shared his three choices. "I would like to have apples too, but my other choices are yogurt and sweets. I know we are studying health, but sweets give me energy to get through the day."

Zeina thought about Rashad's comment. "I would like to have sweets too. Let's see what Mr. Mahmoud says. I have seen him eat sweets. I like your idea about yogurt. I wonder how we could keep it cold."

Rashad smiled. "Yes, I think everyone eats sweets. I never thought about keeping yogurt cold. I wonder if it has to be cold. We have lots of questions to ask Mr. Mahmoud."

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3. TEACHER SAY: You have some interesting ideas. Let's find out what Rashad's ideas were. Turn in your student book to the page Food for a School Canteen. Read and follow the directions.

TEACHER DO: Differentiate the instructions and facilitate the learning experience according to the needs of your students.

 **STUDENTS DO:** Respond to the question and read the text.

TEACHER SAY: Mr. Mahmoud's class reminds me of our class. Who can imagine and explain why I might think this?

TEACHER DO: Select two or three students to explain how the classes are similar.

 **STUDENTS DO:** Infer similarities between the story and the class.

TEACHER SAY: I am glad you saw those similarities too. How were the ideas you wrote at the top of the page similar and different from Rashad's and Zeina's? Share with a Shoulder Partner, then share with another pair of partners.

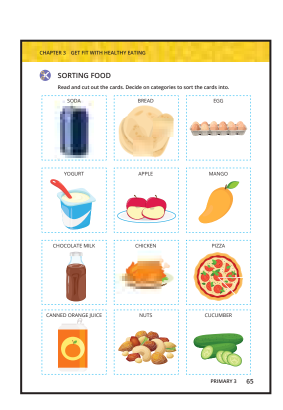
 **STUDENTS DO:** Compare own ideas to those of the characters in the story.

TEACHER DO: Allow time for all students to share within pairs and small groups. Bring students back together for a whole group discussion.

TEACHER SAY: Rashad and Zeina have questions to ask their teacher about the canteen. We will also need to decide what foods to put into a canteen for our Share Project. This would be a good time to make a list of questions we have. At your tables, talk about what you want to know about our Share Project and the canteen.

TEACHER DO: While students are talking within groups, hand out small sticky notes. Direct students to write any questions they agree upon on a note, one question on each. Ask students to post the questions on chart paper.

 **STUDENTS DO:** Record questions on sticky notes and post on chart paper.


CHAPTER 3 GET FIT WITH HEALTHY EATING

SORTING FOOD

Read and cut out the cards. Decide on categories to sort the cards into.

SODA	BREAD	EGG
YOGURT	APPLE	MANGO
CHOCOLATE MILK	CHICKEN	PIZZA
CANNED ORANGE JUICE	NUTS	CUCUMBER

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4. TEACHER SAY: Thank you for your questions. We will come back to these as we learn about healthy eating habits. One of the first topics we need to learn is which foods are healthy for our bodies and which foods are unhealthy. You already know a lot about food. Let's turn to the next page in your student book, Sorting Food, to capture what we know. Read the directions to yourselves.

 **STUDENTS DO:** Read directions and wait for further instruction.

TEACHER DO: Make certain all students have scissors.

TEACHER SAY: The direction is for you to cut out the cards and create your own card sort groups. The directions do not tell you what categories to sort into. Not everyone will sort the same way. Think about what connections you see between different cards. Before we begin, let's read all the cards together. As we are reading, think about how you might want to sort the cards.

STUDENTS DO: Read cards aloud with the teacher.

TEACHER SAY: This is a time for everyone to work individually. Remember that you are deciding the groups, or categories, for your sort.

Note to Teacher: This is intended to be an open-ended exercise. Some students might group all of the beverages together, some may choose to group sweet items and savory items, some may classify proteins or fruits, and so on. There are no incorrect answers as long as students can explain their thinking. Each of the sorts will act as an assessment of prior knowledge and critical thinking skills.

TEACHER DO: Monitor the class as students cut and sort. Once students have finished, bring the class back together using a signal.



STUDENTS DO: Cut and sort.

TEACHER SAY: There are many ways you have sorted the food. Now you will work with a Shoulder Partner. Share your sorts. Explain to each other what categories you used and why. Then, compare your sorts. How are they similar and different?

 **STUDENTS DO:** Share and explain sorts with partners.

TEACHER SAY: Now that you understand each other's sorts, work together to make one new category that both of you agree on.



STUDENTS DO: Add a common category by rearranging or combining sorts with a partner. (This is an opportunity for students to practice the Life Skill: Collaboration.)

TEACHER DO: Continue to monitor. In the next step, students will work in groups of three or four to re-sort. Decide how to efficiently pair pairs for the following small group sort.

TEACHER SAY: I heard some good discussions. Sometimes it is difficult to change our answers, but it shows me that you can listen and adjust your ideas as you learn with others. Now we will do one more sort. You will work among your group to sort the cards again. Look at the last sort you did as partners. Now, as a larger group, decide on the best way to sort the foods. Be sure everyone has a chance to share ideas and reasoning.

 **STUDENTS DO:** Re-sort cards.

TEACHER DO: As students collaborate, hand out one sheet of paper to each group. Ask that one student from each group writes the final sort on the paper. Collect and post the sorts where all students can see them. Encourage students to compare their sorts to others.

TEACHER SAY: This was a lot of work. I see some of you have similar sorts and some are very different.

TEACHER DO: Sort the papers so those that are similar are together. Invite students to help. As similar categories are identified, list those categories on the board or chart paper. Use these categories in the summary recommended below.

TEACHER SAY: This sort helps me understand what you already know about food. Some of you sorted by [name categories used by students such as: types of food, color, sweet or salty, healthy or unhealthy]. As we begin to plan for a canteen, these categories will help us think about the foods that will be best for snacks.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: I will choose a discussion leader to help us close today's lesson. The question will be: What surprised you in today's lesson?

TEACHER DO: Choose a discussion leader to call on students with raised hands.

 **STUDENTS DO:** Share responses.

Lesson 3 Overview

LEARNING OUTCOMES

Students will:
- Define and explain vocabulary words.
- Analyze nutrients found in current diet.
- Research a nutrient and identify foods in which it is found.

KEY VOCABULARY

- Carbohydrates
- Diet
- Fats
- Nutrients
- Protein

MATERIALS

- Student books
- Pencils
- Chart paper
- Computer or research article

PREPARATION

Review questions about the Share Project posted by students in the previous lesson and prepare to answer essential questions at the beginning of this lesson.

Determine groupings and the process for students to use computers for research. If computers are not available, bring in copies of articles that explain and give examples of vitamins, minerals, fats, carbohydrates, and proteins.

LIFE SKILLS

Learn to Know

Critical Thinking:
- Identify subject/topic-related information.

Learn to Work

Collaboration:
- Respect for other opinions.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER DO: Choose one or two questions students posted during Lesson 2 to answer at the beginning of class.

 **STUDENTS DO:** Listen to answers and ask any clarifying questions.

TEACHER SAY: Today we will continue preparing for our Share Project by learning about a healthy diet. What do you think I mean by a diet?

 **STUDENTS DO:** Share understandings of the word DIET.

TEACHER SAY: There is more than one meaning for the word DIET. You may have heard adults talk about being on a diet in order to lose weight. That is one meaning. But everyone has a diet. It is the kind of food a person eats regularly. A person's diet includes the amounts and types of foods they eat. Some diets are healthier than others.

TEACHER DO: Write the definition of DIET on the board: The kind of food a person eats regularly.

2. TEACHER SAY: Today we will be studying another important word that we have discussed before. The word is NUTRIENTS. If you have heard this word before, please discuss the meaning of NUTRIENTS with your Shoulder Partner.

TEACHER DO: Allow time for students to discuss in small groups and then lead a whole group discussion to define NUTRIENTS.



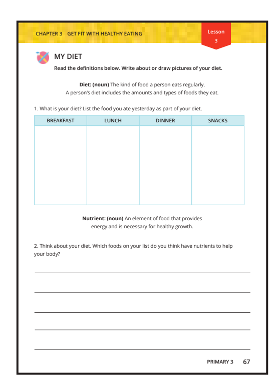
STUDENTS DO: Explain meaning of NUTRIENTS.

TEACHER SAY: Yes. The body needs food because food contains energy. All living things need energy to live. Food also provides living things with nutrients that are necessary for healthy growth.

TEACHER DO: Write definition for NUTRIENTS on the board.



STUDENTS DO: Ask clarifying questions.



CHAPTER 3 GET FIT WITH HEALTHY EATING

Lesson 3

MY DIET

Read the definitions below. Write about or draw pictures of your diet.

Diet: (noun) The kind of food a person eats regularly.
A person's diet includes the amounts and types of foods they eat.

1. What is your diet? List the food you ate yesterday as part of your diet.

BREAKFAST	LUNCH	DINNER	SNACKS

Nutrient: (noun) An element of food that provides energy and is necessary for healthy growth.

2. Think about your diet. Which foods on your list do you think have nutrients to help your body?

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3. TEACHER SAY: These are important definitions for us to understand. We will be using this vocabulary throughout the rest of our lessons. It is time for us to demonstrate our understanding of DIET and NUTRIENTS by going to our student book page My Diet. Once you find the page, please read the directions.

TEACHER DO: Ensure all students understand the directions and can read the questions on the page. Direct students to work independently. Write words on the board if requested by students. Bring students back together when finished.

Note to Teacher: The second question on the page will serve as an early assessment of understanding of which foods contain nutrients. This will provide a reference point for building upon students' understanding.

TEACHER SAY: Now that we have talked about nutrients, I have a question for you. Is a mango a nutrient? Show me with Thumbs Up. A thumb up means yes, a mango is a nutrient. A thumb down means a mango is not a nutrient. A thumb in the middle means you are not sure. Please show me your answer in front of your chest.

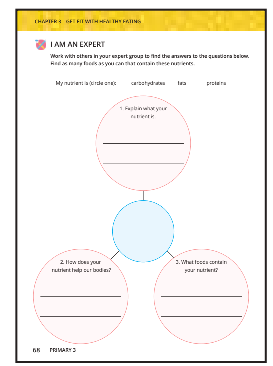


STUDENTS DO: Show understanding with **Thumbs Up**.

TEACHER DO: Check for understanding. Show the definition again. Ask a student to explain why a mango is not a nutrient. If more discussion is needed, offer other suggestions, such as meat, bread, and so on.

4. TEACHER SAY: A specific food is not a nutrient. Foods contain different types of nutrients. We cannot see nutrients. Our body takes nutrients out of the food we eat to help us be healthy. We will discuss three common nutrients today: carbohydrates, fats, and proteins. We are going to form expert groups to help us learn about these nutrients that our body needs.

TEACHER DO: Divide students into expert groups before going on to the next part of the lesson, one group for each of the listed nutrients. Tell students the process for researching the assigned nutrient based on available resources. If researching on the computer, consider providing suggested sites to use for accurate information. Highlight the importance of using a reliable source. If computers are not available, give students in each group an article at an accessible reading level that explains how the nutrient helps the body and the foods in which it can be found.



CHAPTER 3 GET FIT WITH HEALTHY EATING

I AM AN EXPERT

Work with others in your expert group to find the answers to the questions below. Find as many foods as you can that contain these nutrients.

My nutrient is (circle one): carbohydrates fats proteins

1. Explain what your nutrient is.

2. How does your nutrient help our bodies?

3. What foods contain your nutrient?

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STUDENTS DO: Move to expert groups.

TEACHER SAY: Turn in your student book to the page I Am an Expert. Read the directions. Look at me when you are finished so I know you are ready to continue.



STUDENTS DO: Read directions and ask questions.

TEACHER SAY: You have been put into expert groups to make it easier for you to learn about carbohydrates, fat and proteins. That means you will all be learners and teachers. All of your answers should come directly from the research. Work together in your expert groups so that all of you have the information needed.

Critical Thinking



TEACHER DO: Monitor the progress of each group. Direct students to help each other as needed. This is an opportunity for students to use the Life Skills: Critical Thinking and Collaboration.

STUDENTS DO: Research and compare information within expert group.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: You have written a lot of new information in your student books. You have all become experts today. Please congratulate your neighbor for the hard work you did today.

STUDENTS DO: Congratulate neighbors.

TEACHER SAY: In our next lesson, we will take what you learned and share it with everyone. You will work in your expert groups again to make a collage to show what you have learned.

Lesson 4 Overview

LEARNING OUTCOMES
Students will: • Create a collage to show foods containing certain nutrients. • Identify nutrients found in specific foods.

KEY VOCABULARY
• Carbohydrates • Fats • Minerals • Proteins • Vitamins

MATERIALS
• Student books • Pencils • Scissors • Glue or tape • Construction paper or chart paper

PREPARATION
Have available magazines, market ads, and so on with pictures of various food items for collages. Prior to beginning today's lesson, ask students to sit in the expert groups formed during Lesson 3. Prepare one card for each student with the name of one food on each card. Use some foods shown on student page, Vitamins and Minerals, and those listed by students in their research. Include some cards with candy, sweets, or popcorn. Duplicates are okay.

LIFE SKILLS	
Learn to Work	Learn to Be
Decision-Making: • Identify results and expected results.	Communication: • Reading, wring, non-verbal communication skills.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **Hello experts. Are you ready to present your information to the rest of the class?**

 STUDENTS DO: Respond.

TEACHER SAY: **I would like one student from each expert group to tell us how the nutrient you studied helps the body. As a group, choose one friend to present to all of us. Of course, the presenter may use notes from your research.**

 STUDENTS DO: Choose representatives to speak.

TEACHER DO: Direct group representatives to the front of the class. Allow students to present information, either by reading or speaking directly about what they know.

 STUDENTS DO: Listen respectfully as peers present information.

2. TEACHER SAY: **Thank you so much for your presentations. You represented your expert groups very well. Now each expert group will work together to present information about the food in which your nutrients can be found. To do this, you will make a collage. Who would like to remind us what a collage is?**

 STUDENTS DO: Explain a collage and how it is made.

TEACHER SAY: Very good. You have a list of foods that include your nutrients. As a group, find pictures of those foods and create a collage. Please choose one group member to write how the nutrient helps the body. We will put our collages around the room when you finish so we can learn from each other.

TEACHER DO: Encourage any questions and make certain students have all the supplies needed to make the collage. Break each expert group into smaller groups if needed so that all students are able to participate in making the collages.

TEACHER SAY: Be sure to give your collage a title and add the written section first. Then you will know where to place all of the pictures. Remember to invite everyone in your group to participate.

STUDENTS DO: Create a collage collaboratively to show learning.

TEACHER DO: Circulate around the room to ensure all students are on task and able to participate. Post the collages around the room, grouped by nutrients. If possible, post on three separate walls. Make sure there is ample room for students to walk around and view them.

3. TEACHER SAY: You all became experts on one nutrient. I see good information on your collages. Let's use that information to learn about the nutrients we did not study. We will take a Gallery Walk to learn from other students and take notes in our student books. Turn to the page Learning from My Classmates and prepare for our walk.



STUDENTS DO: Read directions and wait for further instruction.

TEACHER DO: Give students directions for the **Gallery Walk**. Allow three or four minutes at each area. Direct students back to seats upon completion.





STUDENTS DO: Record information. (This is an opportunity for students to practice the Life Skill: Communication.)



4. TEACHER SAY: We have two other nutrients to learn about today. Then we will be able to use all we have learned to really know if we have a healthy diet. Please turn to the next page in your student book, Vitamins and Minerals.



STUDENTS DO: Read the directions and wait for instructions.

TEACHER SAY: It can be difficult to understand what vitamins and minerals are. Just like the other nutrients we are learning about, you cannot see them. Read the definitions for vitamins and minerals. Can you tell how they are different?



STUDENTS DO: Respond with ideas.

TEACHER SAY: Both vitamins and minerals are needed by the body to make us strong and healthy. Without them, we can get sick and our bodies will not grow properly. Just as we sorted cards in the last lesson, scientists categorize things in order to understand them better. Vitamins and minerals are each made up of different substances. It is important for us to know what foods we should eat to grow strong bodies. Look at the charts below each definition. What do you notice?



STUDENTS DO: Talk with **Shoulder Partners**.

TEACHER DO: Allow students to share what they notice. Then, show students the different types of vitamins and minerals listed on the chart. Tell students that the matching pictures are only some of the foods that contain those vitamins and minerals.

TEACHER SAY: I see an egg under vitamins. That means I can get vitamin B2, one type of vitamin, from eating an egg. Is an egg listed under minerals?



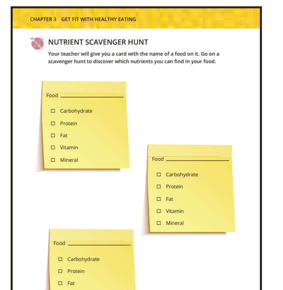
STUDENTS DO: Review page to find answer.

TEACHER SAY: Yes, I get both vitamins and minerals by eating an egg. I wonder. Let's look at the collages you made. Did anyone add eggs to their collage?

 **STUDENTS DO:** Respond by showing which nutrients are included in eggs.

TEACHER SAY: So, one type of food can help me in more than one way. Let's try another food.

TEACHER DO: Choose one student to suggest a food. Have students look for it in the student book and on the collages.


CHAPTER 3 GET FIT WITH HEALTHY EATING

NUTRIENT SCAVENGER HUNT

Your teacher will give you a card with the name of a food on it. Go on a scavenger hunt to discover which nutrients you can find in your food.

Food ____
- Carbohydrate
- Protein
- Fat
- Vitamin
- Mineral

Food ____
- Carbohydrate
- Protein
- Fat
- Vitamin
- Mineral

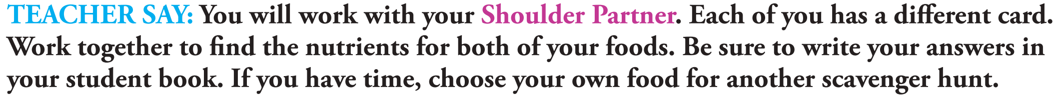
Food ____
- Carbohydrate
- Protein
- Fat
- Vitamin
- Mineral

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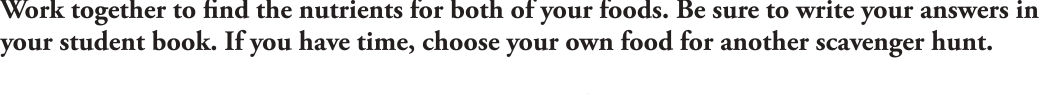
STUDENTS DO: Find nutrients in one specific food.

TEACHER SAY: This is amazing. Let's open our student books to the page Nutrient Scavenger Hunt. Read the directions and be ready to listen to further instructions.

TEACHER DO: As students read directions, hand out one card per student with the name of a food.



TEACHER SAY: You will work with your Shoulder Partner. Each of you has a different card. Work together to find the nutrients for both of your foods. Be sure to write your answers in your student book. If you have time, choose your own food for another scavenger hunt.





TEACHER DO: Guide students with any directions for moving around the classroom. Monitor student engagement. This is an opportunity for students to practice the Life Skill: Decision-Making.

STUDENTS DO: Find information in student books and on collages.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Thank you for communicating so well with your partners today. We are able to practice our skills when we are good communicators. Some of you were surprised with your scavenger hunt today. What surprised you?

TEACHER DO: Take a few answers from students. Choose one student who had candy or popcorn as the food choice to share.

 **STUDENTS DO:** Share some findings.

TEACHER SAY: Today we were able to learn about some of the nutrients we find in foods. Please remember that these are only a few of the nutrients our bodies need. We will continue to use our collages and other resources as we think about creating a canteen and a healthy space for our school.

Lesson 5 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Compare and contrast fresh and processed foods. • Determine effects of sugar on the body. • Discover alternatives to fresh fruits and vegetables.	• Fresh foods • Processed foods	• Student books • Pencils • Scissors • Chart paper • Sticky notes

LIFE SKILLS

Learn to Know

Critical Thinking:
- Identify subject/topic-related information.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In our last lesson, you used what you learned in expert groups to find out how healthy the foods you eat are. I would like one student to lead our discussion today.**

TEACHER DO: Pull a Calling Stick to choose a discussion leader.

TEACHER SAY: **Your questions for today are about the nutrients we eat. Our discussion leader will name a nutrient that you have studied. You will share what you know about that nutrient. Let's take some Think Time to review what you know.**

TEACHER DO: Allow one to two minutes of Think Time. Tell students they can use the collages as a reference. Guide the discussion leader to ask about the nutrients one at a time. Choose two to three students to explain each.

 STUDENTS DO: Review learning about nutrients.

2. TEACHER SAY: **Thank you to our discussion leader and all of you for a good review. This helps us as we continue to learn about healthy foods today. You learned about "eating a rainbow" when you were beginning to learn about healthy eating in other grade levels. Does anyone remember what that means?**

 STUDENTS DO: Recall and explain "eating a rainbow."

Note to Teacher: As you discuss "eating a rainbow," make it clear to students that color helps but it is not the only way to find nutritional fruits and vegetables. Onions and mushrooms are two examples of vegetables that are white but still have important nutrients in them.

TEACHER SAY: **The phrase "eating a rainbow" sounds silly, but it reminds us to eat a variety of fruits and vegetables. Different colors of fruits and vegetables provide different types of vitamins and minerals. They are important for our bodies to grow, stay strong, fight illness, and repair damage. What are some examples of how foods can create a rainbow?**

 STUDENTS DO: Give examples of colorful fruits and vegetables.

3. TEACHER SAY: **Today we are going to discuss two important terms related to food. We will explore what they mean to us and how we choose foods to eat. Those terms are PROCESSED FOODS and FRESH FOODS. Processed foods have been changed in some way before the consumer has an opportunity to eat them.**

TEACHER DO: Give students a few examples of processed foods, including some cereals, boxed pasta, sweets, and vegetables in tins. Distinguish between homemade versus processed sweets. Some meats may be processed. Show or tell examples of processed meats, such as sausage or smoked or salted meats. Compare them to fresh meats.

TEACHER SAY: **Processed foods give us a safe and affordable food supply. One of the problems with many processed foods is that sugars have been added and the nutrients our bodies need have been taken away. When we eat an apple, the apple has natural sugars and the peel of the apple is full of nutrients. But when apples are processed, the peel is taken off and often extra sugar is added. Which do you think is healthier for our bodies? The original apple or applesauce from a package?**

 STUDENTS DO: Share ideas.

TEACHER SAY: **Both can be healthy, but in this example the apple has more nutrients and less sugar. Sometimes processing foods can ADD nutrients. Many cereals have vitamins added to make them healthier. Processing food is not always less healthy, but we need to be careful about what is in the packaged food we eat. Let's think about our own experiences.**

TEACHER DO: Engage students in a discussion around the following questions:
- What type of processed foods do you eat on a regular basis? Think of foods that come in boxes, wrappers, packages, or bags.
- What types of processed foods do you think contain the most sugar?
- Why might it be a problem for us to eat too many processed foods?

 STUDENTS DO: Respond to and discuss questions.

4. TEACHER SAY: **Let's turn in our student books to the page How Much Sugar? Read the directions. Turn to your partner and smile when you are ready to begin.**

 STUDENTS DO: Review directions.

TEACHER SAY: **The text you are going to read is informational text. Who can explain what informational text is?**

TEACHER DO: Choose one or two students to explain.

TEACHER SAY: **Yes. These are facts that will help us learn about sugar in our body. One strategy to help us understand what we read is to know what facts we should look for in the reading. On the bottom of the page is a list of statements to be finished. These are the causes. You are to complete the chart with what happens to or the effects on different parts of the body.**



TEACHER DO: You may choose to read the text orally to students or have them read in small groups. **Model** student work by completing the first statement together and then have students complete the last three statements with a partner. Circulate around the room to assist students as needed. Review the correct responses to the statements. This is an opportunity for students to practice the Life Skill: Critical Thinking.

 STUDENTS DO: Read and complete statements.

5. TEACHER SAY: **We already knew that lots of sugar is not good for us. Since we probably cannot cut out all processed foods from our diets, what can we do to increase the amount of nutrients and decrease the amount of sugar in the foods we consume?**

 STUDENTS DO: Respond with ideas and prior experiences.

TEACHER SAY: **Yes, we can eat fresh foods and choose processed foods carefully. Fresh foods have not been processed and are sold fresh, such as fruits and vegetables. We can lower the**

amount of added sugars in our diet with fresh foods. We will also increase the nutrients we consume.

TEACHER DO: Lead a discussion about eating fruits and vegetables. Ask the following questions:

- Does anyone grow fruits and vegetables at home? Which ones?
- Where do you and your family buy your fruits and vegetables?
- What are some healthy options if fresh, locally-grown foods are not available?



STUDENTS DO: Respond with opinions and experiences.

6. TEACHER SAY: Fruits and vegetables grow at specific times of the year. We cannot always buy these foods fresh at the market. Who knows how we can buy fruits or vegetables that are not in season?



STUDENTS DO: Share ideas.

TEACHER SAY: Yes, we can buy frozen, canned, and bagged produce. Sometimes we can buy fruits and vegetables that are not locally grown. And of course we can grow our own fruits and vegetables.



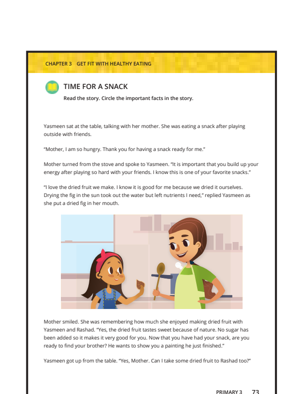
STUDENTS DO: Respond with questions and experiences.

TEACHER SAY: For many centuries, we in Egypt have made dried fruits. Show me with Thumbs Up if you have helped make dried fruit or vegetables.



STUDENTS DO: Respond with **Thumbs Up**.

TEACHER DO: If students have made dried fruits or vegetables, choose one or two students to explain the process.



CHAPTER 3 GET FIT WITH HEALTHY EATING

TIME FOR A SNACK

Read the story. Circle the important facts in the story.

Yasmeen sat at the table, talking with her mother. She was eating a snack after playing outside with friends.

"Mother, I am so hungry. Thank you for having a snack ready for me."

Mother turned from the stove and spoke to Yasmeen. "It is important that you build up your energy after playing so hard with your friends. I know this is one of your favorite snacks."

"I love the dried fruit we make. I know it is good for me because we dried it ourselves. Drying the fig in the sun took out the water but left nutrients I need," replied Yasmeen as she put a dried fig in her mouth.

Mother smiled. She was remembering how much she enjoyed making dried fruit with Yasmeen and Rashad. "Yes, the dried fruit tastes sweet because of nature. No sugar has been added so it makes it very good for you. Now that you have had your snack, are you ready to find your brother? He wants to show you a painting he just finished."

Yasmeen got up from the table. "Yes, Mother. Can I take some dried fruit to Rashad too?"

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TEACHER SAY: Let's read a story about Yasmeen, Rashad's sister. Please find the page Time for a Snack in your student book.

TEACHER DO: Clarify the directions if needed. Allow students to read individually. Adjust reading instructions to include partners or small groups according to your students' abilities.



STUDENTS DO: Read and circle important facts.

TEACHER DO: Circulate around the room as students work. When students have completed the page, facilitate a discussion on the text. Ask comprehension questions including those that follow. Direct students to refer to evidence in the text that supports answers given.

- How is dried food made?
- Why is dried food good for you?
- What are some benefits of dried fruit over fresh fruit?

Note to Teacher: If there is time in the school year, consider extending this literacy-based learning experience into a hands-on experience of drying fruits or vegetables at school. Have students practice the science skill of close observation by describing and even sketching the fruits at various points in the drying process.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Wow. We have been learning so much about nutrition. Let's think about why dried fruits or vegetables might be a good choice for our canteen offerings. What are some advantages of offering dried foods? Turn to share with your Shoulder Partner.



STUDENTS DO: Share advantages of dried foods with **Shoulder Partner**.

Lesson 6 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Interpret nutrition information on food packaging. • Use nutrition facts on a packaging label to determine if the food is healthy.	• Calories • Diagram • Ingredients • Nutrition label • Percent (%) daily value • Serving size	• Student books • Pencils • Crayons • Index cards • Chart paper • Several packaged foods with nutrition labels

PREPARATION

If available, bring in several packaged foods that include nutrition facts. Students can practice reading the labels along with those given in the student book.
Prepare a chart with three columns with the headings SEE, THINK, WONDER.

LIFE SKILLS	
Learn to Know	Learn to Be
Critical Thinking: • Explain thinking processes.	Communication: • Reading, writing, non-verbal communication skills.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In the last lesson we learned more about making healthy choices with the food we eat. We also talked about what could happen if we eat too much sugar. Let's review what we learned by taking a closer look at our favorite snacks. First, share with your Shoulder Partner your favorite snacks to eat.**



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER SAY: **I heard many healthy choices. There are also many snacks we love to eat that are not as healthy. With your partner, write the name of one snack you both like to eat on the small card.**

TEACHER DO: Give one index card to each pair of students.



STUDENTS DO: Write the names of snacks on cards.

TEACHER SAY: **We are now going to put the cards in order, from the least healthy snack to the healthiest snack. Each small group will make a line showing how you rank your snacks. Be sure you can give a reason why you placed a snack where you did on the line.**



TEACHER DO: In groups of seven to 10, assist students to make a continuum on the floor, ranking the snacks from LEAST HEALTHY to MOST HEALTHY. Another option is to give each pair of students a small piece of tape to hang the cards in a line on the wall. Label one end of the line LEAST HEALTHY and the other end of the line MOST HEALTHY. This is an opportunity for students to practice the Life Skill: Critical Thinking.



STUDENTS DO: Place cards (names of snacks) on the continuum line and offer reasoning for the placement.

TEACHER SAY: **You demonstrated a lot of critical thinking during your discussions. In fact, you used many life skills to complete this activity. You had to compare several characteristics of these foods and use evidence to support your reasoning. I also heard respectful language as you disagreed kindly with your classmates. Now with your Shoulder Partner, discuss what you think determines whether or not a snack is healthy.**

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER DO: Start the discussion by using **Calling Sticks** to choose a student, then allow them to **Popcorn** to the next student. As students describe what makes a snack healthy, record responses. Seek class agreement to define a healthy snack, such as foods low in sugar and fat, foods with lots of vitamins, foods that make you feel good, and so on.

2. TEACHER SAY: **I am very proud of how much you have learned about eating healthy already. As you mentioned, many of the healthiest snacks are fresh and do not come in a package, like fresh fruit and vegetables. We need to choose packaged foods carefully. When I consider a packaged food, one question I have is: What is in it? How do you think we can learn more about what is in those packaged foods?**

 **STUDENTS DO:** Share ideas.


CHAPTER 3 GET FIT WITH HEALTHY EATING

Lesson 6

WHAT IS IN THE PACKAGE?

Look at the labels for two packages of food. On the next page, write down what you SEE, what you THINK, and what you WONDER.

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TEACHER SAY: **It is often standard practice in food manufacturing to tell us what is inside a package. Let's take a look at a couple of labels from packaged food. Please turn in your student book to the page What Is in the Package? Look closely at the two pictures. Follow along as I read the directions aloud.**

Note to Teacher: This page goes along with the following page in the student book, entitled "See-Think-Wonder." Be sure that students are able to flip back and forth between the page with the images and the page for making observations.

 **READ ALOUD:** **Look at the labels for two packages of food. On the next page, write down what you SEE, what you THINK, and what you WONDER.**

TEACHER SAY: **The first step of the directions is to make observations of the labels. What do you see? Talk with your Shoulder Partner about all of the things you see on the labels. Record your ideas in the I SEE… box on the next page.**

 **STUDENTS DO:** Discuss and record observations.

TEACHER DO: Circulate around the room to assist students as needed. Be sure students are only recording what they see and not inferences. After students are finished recording, ask several students to share observations and record them on a class chart labeled SEE-THINK-WONDER.

TEACHER SAY: **Very good. The next step is to record what you think about these labels. These are your inferences about what the label is telling you about the food inside the package. An example may be: I think it will not taste good because it does not have any sugar. Talk with your Shoulder Partner about what you think about the labels. Record your ideas in the I THINK… box.**

 **STUDENTS DO:** Discuss and record inferences.

TEACHER DO: Collect ideas from students and record inferences in the THINK column of the class chart.

TEACHER SAY: **I heard wonderful inferences based on your experiences. Now the last step is to record what you wonder about these labels. These are the questions you have about the labels. Talk with your Shoulder Partner about what you wonder about the labels. Record your ideas in the I WONDER… box.**

 **STUDENTS DO:** Discuss and record questions.

TEACHER DO: Record questions in the WONDER column of the class chart.



3. TEACHER SAY: You have some fantastic questions. Let's explore these labels more to see if we can answer some of them. Look carefully at the first picture on the page What Is in the Package? I am going to ask you some questions about it.

Note to Teacher : As students learn more about packaging labels throughout the lesson, record answers to any of the questions listed on the class chart.

TEACHER DO: Lead a discussion, including questions such as the following:

- Where do we find out what is in the product? What is that called?
- What are the foods that make up the product called?
- What ingredients can be found in this packaged food?

Some ingredients listed are broken down into their own ingredients list provided in parentheses, for example, enriched flour (wheat flour, niacin, thiamin, riboflavin, folic acid).

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Thank you for sharing all of your observations about the ingredients. Many of the packaged foods we eat are made up of lots of ingredients. The ingredients are listed in a particular way to help people learn more about what they are eating. How do you think the ingredients are ordered on the label? Share your idea with a Shoulder Partner.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

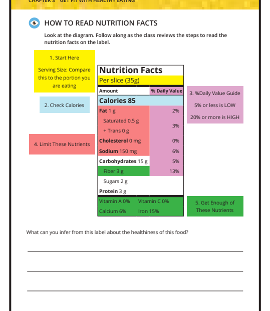
TEACHER SAY: Did anyone guess that the ingredients are listed by the amount? Correct. The ingredients are listed in order from most to least. The first ingredient listed is the main ingredient of the item, while the last item listed is only a tiny part of the item. Look at the picture again in your student book. The packaged food has the most of which ingredient? Which ingredient was used in the smallest amount?

 **STUDENT DO:** Share ideas.

TEACHER SAY: Now look at the box on the label. We can see new information here, including several numbers. Look carefully at this box in the first picture. I am going to ask you some questions about it.

TEACHER DO: Lead a discussion about the label, including questions such as the following:

- What are these?
- What kind of information can you get from them?
- How much/many is a serving?
- How many calories are there? What do you think a calorie is?
- How much sodium/cholesterol/fiber/fat is there?



4. TEACHER SAY: Did you realize how much you could learn about the food in the package from the label? This information can help us to make healthy choices, but with so much information, it may be hard to figure out what information is important. Please turn in your student book to the page How to Read Nutrition Facts. Read the directions to yourself.

STUDENTS DO: Read directions.

TEACHER SAY: We are looking at a partial food packaging label. This diagram shows us the steps for reading the nutrition facts. Let's see what we can learn about this food from the label. The serving size is the amount of the food a person would normally eat at one time. First, how big is the serving size?

 **STUDENTS DO:** Share observations.

TEACHER SAY: Yes. The serving size is usually much smaller than the whole package. Next, we are going to find out how many calories are in one serving. Calories are the amount of energy in one serving of the packaged food. Sometimes the label will say energy instead of calories. Give me a Thumbs Up when you find the calories on this label.

TEACHER DO: After giving students a moment to look for themselves, point to the calories on the label.

TEACHER SAY: Step three is the percent (%) daily value. This shows us how much of each nutrient is in one serving. For each nutrient, the goal is to total 100% as you eat throughout the day. Let's figure out what this means.

Teacher Note: Students do not need to understand the mathematical concept of percentages to understand this applied concept and do this activity.

TEACHER DO: Display a large hundreds chart. Explain that the chart can be used to show how much of each nutrient you should have every day. 100 is the goal each day.

TEACHER SAY: Raise your hand if you can tell us what percentage of fiber this food has.



STUDENTS DO: Share ideas.

TEACHER DO: Call on students with raised hands. Color in 13 squares of the hundreds chart. Explain how this helps us to see how much of the total daily amount we would get if we ate a serving of this food.

TEACHER SAY: What does the diagram say is a LOW amount? What does the diagram say is a HIGH amount?

TEACHER DO: Choose students with raised hands until the correct answer is given (5% or less is LOW, 20% or more is HIGH).

TEACHER SAY: Very good. Next we are going to look at the middle of the label. What do you notice about these nutrients?

TEACHER DO: Use **Calling Sticks** to choose students until the correct answer is given. (We should limit these nutrients; these nutrients may be unhealthy.)

TEACHER SAY: Very good. Yes, it is important we limit how much of these nutrients we eat. We want these percentages to be low, 5% or below. Fat is one of the nutrients we learned about earlier. Is the amount of fat in this food high or low?

TEACHER DO: Choose students with raised hands until the correct answer is given. (It is below 5% so it is low.)

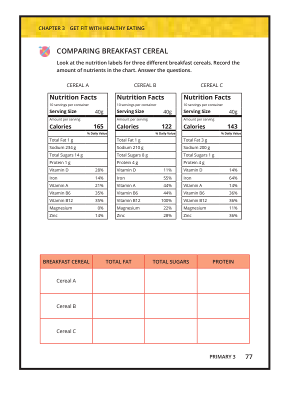
TEACHER SAY: The last step is the bottom of the label. What types of nutrients are listed here?

TEACHER DO: Use **Calling Sticks** to choose students until the correct answer is given (vitamins).

TEACHER SAY: These are the healthy vitamins that we want to be sure we get enough of every day. These nutrients help to keep our bodies strong and healthy. Which nutrient does this product offer the most of?



STUDENTS DO: Answer, providing evidence from the label.



CHAPTER 3 GET FIT WITH HEALTHY EATING

COMPARING BREAKFAST CEREAL

Look at the nutrition labels for three different breakfast cereals. Record the amount of nutrients in the chart. Answer the questions.

CEREAL A

Nutrition Facts	
10 servings per container	
Serving Size	40g
Amount per serving	
Calories	165
	% Daily Value
Total Fat 1 g	
Sodium 234 g	
Total Sugars 14 g	
Protein 1 g	
Vitamin D	28%
Iron	14%
Vitamin A	21%
Vitamin B6	35%
Vitamin B12	35%
Magnesium	0%
Zinc	14%

CEREAL B

Nutrition Facts	
10 servings per container	
Serving Size	40g
Amount per serving	
Calories	122
	% Daily Value
Total Fat 1 g	
Sodium 210 g	
Total Sugars 8 g	
Protein 4 g	
Vitamin D	11%
Iron	55%
Vitamin A	44%
Vitamin B6	44%
Vitamin B12	100%
Magnesium	22%
Zinc	28%

CEREAL C

Nutrition Facts	
10 servings per container	
Serving Size	40g
Amount per serving	
Calories	143
	% Daily Value
Total Fat 3 g	
Sodium 200 g	
Total Sugars 1 g	
Protein 4 g	
Vitamin D	14%
Iron	64%
Vitamin A	14%
Vitamin B6	36%
Vitamin B12	36%
Magnesium	11%
Zinc	36%

BREAKFAST CEREAL	TOTAL FAT	TOTAL SUGARS	PROTEIN
Cereal A			
Cereal B			
Cereal C			

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5. TEACHER SAY: Now it is your turn to read several labels and determine if the food is a healthy choice. Please turn in your student book to the page Comparing Breakfast Cereal. Read the directions to yourself and then follow those directions.



STUDENTS DO: Read and follow directions in student books.

TEACHER DO: Give students ample time to record the information on the chart. Remind students they can refer to the diagram How to Read Nutrition Facts if they need to. While students are working, circulate around the room to assist if students are having difficulty.

TEACHER SAY: When you have finished, please share your work with your Shoulder Partner. Did you come up with the same ideas, or are they different?

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.



TEACHER DO: As students are working, walk around the room to see if more questions arise. After students have completed the questions, lead a class discussion about how they ranked each cereal. Be sure students give evidence from the nutrition label to support their answers. This is an opportunity for students to practice the Life Skill: Communication.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we explored what we can learn about packaged food from reading the label. You used this information to make a decision about the healthiest breakfast cereal to eat. For our closing today, you will review the SEE-THINK-WONDER chart you filled out in your student book. Read over the questions you had and record any answers you now know. Then share those answers with a Shoulder Partner.

 **STUDENTS DO:** Review SEE-THINK-WONDER charts, record answers, and share with **Shoulder Partner**.

TEACHER SAY: Thank you for your hard work today. Tomorrow we will learn about another important habit for staying healthy.

Lesson 7 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Explain the importance of drinking water. • Design a way to educate others about the importance of drinking water. • Set goals for drinking water every day.	• Dehydrated • Hydrated	• Student books • Pencils • Crayons • Two one-liter containers • Small drinking cup • Water

PREPARATION

Fill one of the liter containers with water.

LIFE SKILLS

Learn to Know

Critical Thinking:
- Identify subject/topic-related information.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In the previous lesson, we learned how to read the nutrition information on food packaging. What information did we find on the label?**

TEACHER DO: Lead a discussion, starting with one student and using **Popcorn** to involve other students. Remind students of the basic information found on food packaging, such as ingredients, serving size, calories, percent daily value, nutrients, and vitamins.

TEACHER SAY: **Now turn and talk to a Shoulder Partner about some of the nutrients that are important to eat every day and which ones we should avoid eating too much of.**

 STUDENTS DO: Share ideas.



2. TEACHER SAY: **You are becoming nutrition experts. We have learned so much about how important it is to eat healthy food, but there is something else our bodies need every day. Let's see if you can guess what it is. Please turn in your student book to the page Are These Plants Healthy? Once you find the page, read the directions and we will talk together once everyone is ready.**

 STUDENTS DO: Read directions.

TEACHER SAY: **What do you notice about the plants in this picture? How are they the similar? How are they different?**

 STUDENTS DO: Share ideas about the picture.

TEACHER DO: Listen for students to share observations, such as the healthy plant is full of color and stands tall and firm. The unhealthy plant is sagging, lacks bright color, looks wilted or limp. Encourage students to suggest why the plants look different. (The unhealthy plant is not getting what it needs, such as sun or water.)

TEACHER SAY: **We are living, just like the plants are living. Living things have needs in order to be healthy and stay alive. What is a need that plants have that is a need humans have as well?**

TEACHER DO: Use **Calling Sticks** to choose three students to answer the question before continuing. Allow and affirm all correct answers (space, air, food, water) then focus on water as a need.

3. TEACHER SAY: That is right. We need water just like plants do. Drinking water is an important healthy habit. We are going to learn more about this today. Please turn in your student book to the page Why Water Matters.



READ ALOUD: Read the information about water. Circle the words you do not know.

TEACHER SAY: This informational text looks similar to other ones we have read. Raise your hand if you can tell us one of the subheading.

TEACHER DO: Call on three students with raised hands to read the three subtitles: What does water do for your body? Why do we need to drink water? Will any drink keep me hydrated?



STUDENTS DO: Follow along as students read the subtitles.

TEACHER SAY: What do all of these subtitles have in common?



STUDENTS DO: Share ideas. (All of the subtitles are questions.)

TEACHER SAY: We will read the first paragraph together.

TEACHER DO: Use **Calling Sticks** to choose students to read the paragraph, each reading one sentence.



STUDENTS DO: Follow along.

TEACHER SAY: Now you will read the rest of the text with a Shoulder Partner to find out the answer to the question in the subtitle.



STUDENTS DO: Read informational text with **Shoulder Partner**.

4. TEACHER SAY: Informational texts often contain a lot of important facts and knowledge. When we read about new topics, we can take notes to remember what we read. Choosing what to write and physically writing the notes can help us remember. How else can notes help us remember the content?



STUDENTS DO: Share ideas. (We can refer back to the notes instead of having to re-read the whole passage later.)

TEACHER SAY: Let's practice taking notes. You are going to read the passage again with your partner, but this time you will record some notes as you read. Please turn to the page Double Entry Journal. Follow along as I read the directions aloud.



READ ALOUD: In the first column, record one important fact for each section of the text. In the second column, write what you think about the information you recorded.



STUDENTS DO: Read along.

TEACHER SAY: Both columns of this page are important for our learning. We want to remember facts, but when we read we also relate what we read to our own lives and to what we already know. This process helps us learn. Does anyone have any questions before you begin?



TEACHER DO: Answer any questions that arise. This is an opportunity for students to practice the Life Skill: Critical Thinking.



STUDENTS DO: Complete double entry journal with **Shoulder Partner**.

TEACHER SAY: Thank you for working so hard. You shared wonderful ideas about the information you recorded. Let's discuss what you learned.

TEACHER DO: Lead a discussion about the reading, including questions such as the following:

- How does water help your body?
- What is one way your body loses water?
- What are some foods that contain water? Does it surprise you that food can contain water?
- What happens to your body when you get dehydrated? Have you ever felt this way?
- Why is water better for your body than soda?

5. TEACHER SAY: **In our last chapter we tracked our healthy habits to help remind us about important things we should do every day. It sounds like we could add "drink water" to that list. To help us make drinking water every day a habit, we are going to record our progress on a new tracker. Please turn to the page Drink Your Water and read the directions to yourself.**

 STUDENTS DO: Read directions.

TEACHER SAY: **For each cup of water you drink, you will color in an empty cup on the tracker. There are ten empty cups next to each day. How many of those do you think you should drink?**

 STUDENTS DO: Share ideas.

TEACHER DO: Show students the liter container that is full of water.

TEACHER SAY: **This container has half of the total amount of water you should drink every day. How many cups do you think it takes to fill up the container? Hold up the number of fingers to show your guess.**

 STUDENTS DO: Respond by holding up fingers.

TEACHER DO: Carefully transfer water from the full one-liter container to the empty one-liter container using the small drinking cup. As you pour each cup, students count up. Record the number of cups on the board as you go.

TEACHER SAY: **It took four cups to fill up the liter. Remember, this is only half of what you should drink every day. So how many total cups should you drink?**

 STUDENTS DO: Share ideas. (The goal is eight cups of water per day.)

TEACHER SAY: **Wow. That is a lot of water. On the row of cups for today, circle the number you would like to set as your goal.**

 STUDENTS DO: Set goals.

6. TEACHER SAY: **We can see how it is really important for our bodies to stay healthy. Who thinks we should offer water at the canteen we are planning?**

 STUDENTS DO: Raise hands.

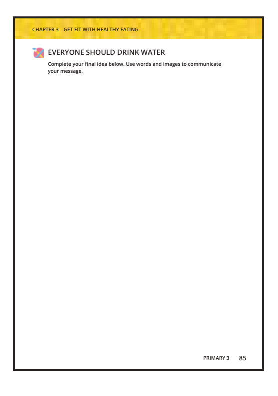


TEACHER SAY: **I agree. It will be important for other people to know about why they should choose water to drink. Please turn to the page Teaching Others about Drinking Water.**

 READ ALOUD: **Decide how you will share why drinking water is important, such as by making a poster or making up a chant. Record your ideas on the chart. Choose one to create.**

TEACHER SAY: **Work with a Shoulder Partner to complete this page. If you have any questions, raise your hand and I will help you. Let's get started organizing information about drinking water for our canteen.**

 STUDENTS DO: Work with **Shoulder Partner** to draft ideas.


CHAPTER 3 GET FIT WITH HEALTHY EATING

EVERYONE SHOULD DRINK WATER

Complete your final idea below. Use words and images to communicate your message.

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TEACHER DO: As students finish the table, allow time for students to work with a **Shoulder Partner** to choose one of the ideas and create a final poster or cheer on the page Everyone Should Drink Water.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Thank you for all of your hard work today. Drinking water will be a wonderful addition to our canteen. For our closing today, we are going to use the Shake It Share It High Five strategy to share your poster or chant about drinking water. To do this, you will move around the classroom until I signal you to stop. Then partner with a nearby student. Shake hands, share the page in your student book you created, then high five before moving around again to find a new partner. Ready, go.

 **STUDENTS DO:** Share work with others.

TEACHER DO: Allow two or three iterations of sharing, then have students return to their seats.

Lesson 8 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Use a design process to make a container to keep food cold. • Collaborate with others to give and receive peer feedback.	• Design process • Zeer pot	• Student books • Pencils • Crayons • Cardboard boxes • Various materials for students to test, such as: • Cardboard pieces • Plastic sandwich bags • Aluminum foil • Plastic wrap • Construction paper of various colors • Hay/straw

PREPARATION

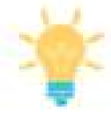
Gather and display materials students may use to design a container to keep food cold at the canteen.

LIFE SKILLS

Learn to Be

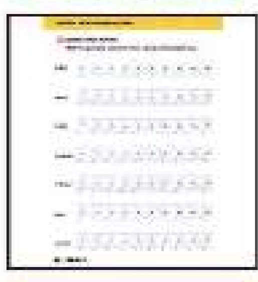
Self-Management:
- Review progress in realizing goals.

Accountability:
- Provide effective feedback.



Learn (90 minutes)

Directions





1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In our previous lesson, we learned about the importance of drinking water every day. We started to keep a record of how much water we drink every day to help us stay hydrated. Let's return to the page Drink Your Water in your student book. Take a moment to think about how much water you drank since the previous lesson.**



STUDENTS DO: Self-assess progress. (This is an opportunity for students to practice the Life Skill: Self-Management.)

TEACHER SAY: **Great job. Remember to find time throughout the day to drink more water, especially when you are playing. We have been learning a lot about healthy foods. Let's think about our healthy space and the canteen where we will offer healthy food choices. Talk to your Shoulder Partner about some of the foods you think we should offer.**



STUDENTS DO: Share ideas with Shoulder Partner.

TEACHER SAY: **You have shared some delicious ideas. Are any of your food or drink options best when they are cold?**



STUDENTS DO: Share ideas.

2. TEACHER SAY: **Today we are going to think about how we can store those foods or drinks that are best to keep cold. We will help Rashad and Zeina answer their question about how they could offer yogurt at the canteen. Let's think. How do you keep food cold at home? Do you ever need to keep food cold on a trip or at school?**



STUDENTS DO: Share ideas.



TEACHER SAY: We are going to read about a solution to keeping food cold. Please turn in your student book to the page Keeping Food Cold. Read the directions to yourself, and then we will read the passage together.

TEACHER DO: Choose three students to read, one for each paragraph.

Note to Teacher: The text may be challenging for students to read. You may wish to offer assistance to student readers, or you may choose to read the passage to the class.

 **STUDENTS DO:** Read along as classmates read the passage.

TEACHER DO: Lead a discussion about the reading, including questions such as the following:

- Why do people use refrigerators?
- What do refrigerators need in order to work?
- What materials are used to make a zeer pot?
- In what areas are zeer pots used?
- Why are zeer pots helpful in these areas?

3. TEACHER SAY: That was a very good discussion. The people who invented the zeer pot were very creative. They were able to use science to solve the challenge of keeping food cold in an area that is very hot. How do you think they figured out how to make the pot?

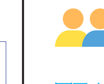
TEACHER DO: Use **Calling Sticks** to choose students to respond.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Yes, these people probably tested out many ideas before they found one that worked. You will now have a chance to test out an idea you design. We have boxes to store the food we will have at the canteen, but these boxes will not keep our food cold. We are going to do an experiment to see which type of material we should put in the box to keep our food cold the longest. We only have certain materials available. Let's take a look at them and discuss what we already know about each material.

TEACHER DO: Display the materials you have chosen for students to test, such as towel, aluminum foil, plastic, straw, cardboard pieces, and so on. As you display each material, call on students to describe its characteristics and what experience they have with it. For example, students may describe a towel as soft and it can be used to keep you warm.

Note to Teacher: You may limit the number of materials tested or you may want to let students suggest other materials you have not presented to them. If so, these materials should be easily accessible.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Thank you for sharing your ideas. Now that we are familiar with our materials, let's Brainstorm how these materials can help us keep food cold. Please turn in your student book to the page My Ideas. Read the directions to yourself and then follow those directions. If you have a question, raise your hand, and I will help you.

TEACHER DO: Help students as needed.

 **STUDENT DO:** Sketch container designs.

4. TEACHER SAY: I see some creative ideas already. The best solutions to a challenge usually come when people work together and share ideas. Please turn to the page My Team's Plan. Follow along as I read the directions aloud.

 **READ ALOUD: Share your original ideas with your team. Combine your ideas, or choose one idea to enhance. Sketch a design of your container and materials your team will test. Label each part of your sketch with the material you will use to build it.**

 **STUDENTS DO:** Read along.

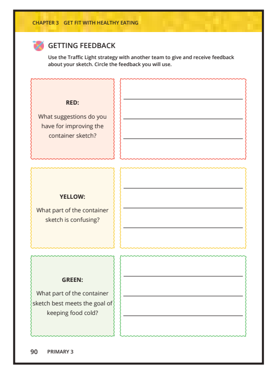
TEACHER SAY: First, share your individual sketches with your team. As you are sharing, be

sure to explain why you designed the container the way you did. After everyone in your group has shared, combine your ideas to make a new sketch of the container you would like to test. Do not forget to add labels. Does anyone have any questions?

TEACHER DO: Answer any questions. As students are working, walk around the room to see if more questions arise.

 **STUDENTS DO:** Work on a collaborative sketch of a container design to test.

5. TEACHER SAY: Thank you for working so well together. You are using a lot of creativity to design a container. We have one final step to the design process. Let's imagine: If a company made a product that was not working well, what do you think they would do? Would they throw away all their work and start over on a new design? What other options can you think of?


CHAPTER 3 GET FIT WITH HEALTHY EATING

GETTING FEEDBACK

Use the Traffic Light strategy with another team to give and receive feedback about your sketch. Circle the feedback you will use.

RED: What suggestions do you have for improving the container sketch?

YELLOW: What part of the container sketch is confusing?

GREEN: What part of the container sketch best meets the goal of keeping food cold?

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 **STUDENTS DO:** Share ideas.

TEACHER SAY: You are going to have the chance to get feedback from your classmates on how you can improve your design using the Traffic Light strategy. Please turn in your student book to the page Getting Feedback. Follow along as I read the directions aloud.

 **READ ALOUD: Use the Traffic Light strategy with another team to give and receive feedback about your sketch. Circle the feedback you will use.**

 **STUDENTS DO:** Read along.



TEACHER DO: Answer any questions students have about the feedback activity. Allow time for two teams of students to meet together to give and get feedback. Visit groups and assist as needed. This is an opportunity for students to practice the Life Skill: Accountability.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: You worked hard today on your group's plan to design a container that will keep the food cold at our canteen. Think about what worked well and what challenges your team faced. Share with a Shoulder Partner one thing you could you have done differently during the design process.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Thank you for working so well together today. I am excited to see the results of your tests tomorrow.

Lesson 9 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Collect data to determine effectiveness of a design. • Trace a timeline of food storage through history.	• Timeline	• Student books • Pencils • Crayons • Cardboard boxes • Various materials for students to test, such as: • Cardboard pieces • Plastic sandwich bags • Aluminum foil • Plastic wrap • Construction paper of various colors • Straw • Plastic sandwich bags (for ice cubes) • Ice cubes (all the same size) • Ruler • Tape • Scissors • Clock or timer • Thermometer (optional) • Camera (optional)

PREPARATION

To save time, use each team's final design sketch to gather materials together before the lesson and distribute once students are ready to build.

LIFE SKILLS

Learn to Live Together

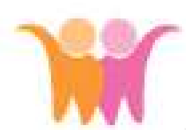
Sharing:
- Effective management and organization of tasks.

Learn to Be

Self-Management:
- Review progress in realizing goals.

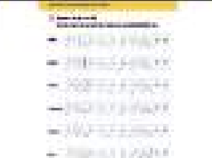
Learn to Know

Critical Thinking:
- Explain thinking processes.



Share (90 minutes)

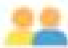
Directions





1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **Before we begin today's lesson, find the Drink Your Water page in your student book and mark your progress. When your Shoulder Partner is ready, share your successes with each other.**

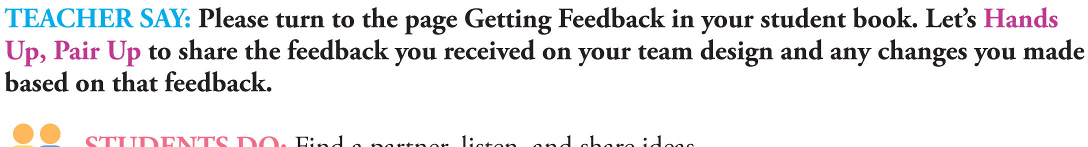


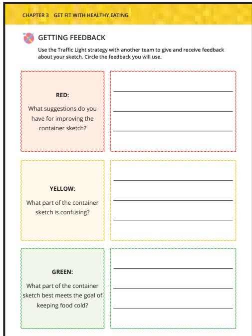
STUDENTS DO: Record progress. (This is an opportunity for students to practice the Life Skill: Self-Management.)

2. TEACHER SAY: **Let's review the process you went through in the previous lesson to design a container to keep our food cold at the canteen. You may turn back to the design pages in your student book to help you remember. First we learned about the materials that are available for building the container. You then sketched two different designs on your own. Next, you combined ideas with your team and sketched a final design plan. The last step was to revise your design based on the feedback you got from your classmates.**



STUDENTS DO: Review design pages in student books while following along.





TEACHER SAY: Please turn to the page Getting Feedback in your student book. Let's Hands Up, Pair Up to share the feedback you received on your team design and any changes you made based on that feedback.

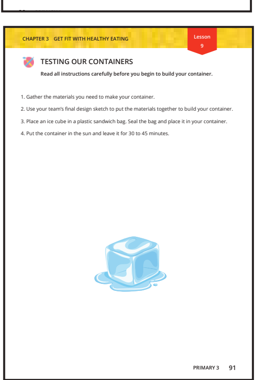
STUDENTS DO: Find a partner, listen, and share ideas.

TEACHER DO: Repeat the process once or twice more, allowing time for both students to share.

3. TEACHER SAY: Thank you. Please return to your seats. Now it is time to see if our containers will keep our food cold. Turn in your student book to Testing Our Containers and read the first direction to yourself.



STUDENTS DO: Read the first direction silently.



TEACHER SAY: We are going to read all of the steps together. Then we will get the materials and begin building our containers.

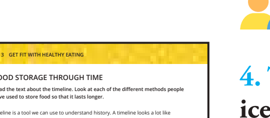
TEACHER DO: Choose students to read each instruction and discuss any questions. Distribute materials. Walk around to help students as needed. This is an opportunity for students to practice the Life Skill: Sharing.

Sharing

Note to Teacher: All groups should place ice cubes in the container at approximately the same time to make it a fair test. Place the boxes in a sunny spot outside. If putting the boxes outside is not feasible, place them in the warmest part of the classroom/school. The boxes should sit for 30 to 45 minutes while students complete an activity about food storage.



STUDENTS DO: Make and test containers.



4. TEACHER SAY: Great job working together. It will be interesting to see what happens to the ice cube in each of the containers. While we wait to collect our data, we are going to explore ways food can be stored. We have defined TECHNOLOGY as human designed solutions to a problem. Let's learn more about how people in history solved the problem of storing food. Please turn in your student books to the page Food Storage Through Time. Read the directions to yourself.



STUDENTS DO: Read directions.

TEACHER SAY: Now look at the timeline in your student book. What do you notice? Does it look like anything you have seen before? Share with a Shoulder Partner some observations you can make about this page.



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Choose a student to start the discussion, and then **Popcorn** to encourage more ideas. Encourage students to explain why they think it looks the way it does. Make the connection to the way a number line is set up in math.



STUDENTS DO: Popcorn observations made about the timeline.

TEACHER SAY: Let's learn about timelines by reading the paragraph together.

TEACHER DO: Choose students to read the paragraph, one line at a time. Some of the topics may include, but are not limited to:

- What is a timeline?
- How can timelines help us?
- What method is the oldest?
- What is the most recent?
- What method do you think we might see in the future?

TEACHER SAY: Great thinking. Earlier we learned about the zeer pot. If we wanted to add this method to our timeline, where do you think it would go?



STUDENTS DO: Share ideas.

TEACHER DO: Show students that the zeer pot would go between DRYING IN THE SUN and BAKING DRIED GRAINS.

 **STUDENTS DO:** Add the zeer pot to the timeline in student books.

CHAPTER 3 GET FIT WITH HEALTHY EATING

TEST RESULTS

Observe what happened to the ice cube in each container. Record the results in order based on the size of the ice cube, largest to smallest.

SIZE OF ICE CUBE	MATERIALS TESTED
Largest	
Smallest	

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5. TEACHER SAY: It is time to check our containers to see the results of our tests. Please turn in your student book to the page Test Results and read the directions to yourself.

 **STUDENTS DO:** Read directions.

TEACHER DO: Remove the bags of ice cubes from each container and line them up. Allow students to make quick observations about the size of each ice cube. As a class, reorder the containers based on the size of the ice cubes, from largest to smallest.

Note to Teacher: This step will need to be done fairly quickly to prevent the ice cubes from melting much more.

TEACHER SAY: Now that we have ordered the containers, record these results in the table in your student books.

 **STUDENTS DO:** Record results.

TEACHER DO: Circulate around the room and assist students as needed.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today, we tested different materials to keep food cold. Based on our results, which material would be best for us to use to keep food cold at our canteen?

 **STUDENTS DO:** Share ideas.

TEACHER DO: Guide students to determine which material would work best at keeping food cold based on which material worked best to keep the ice cube from melting. The container with the largest ice cube at the end of the test is the material students should select.

TEACHER SAY: We also learned about different ways people have stored food throughout history. What are some other ways we could store food that does not need to be kept cold? Share with a Shoulder Partner.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

Lesson 10 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Synthesize learning about healthy choices to develop a plan for a canteen. • Present elements of the canteen plan in both written and oral forms.	• Element	• Student books • Pencils • Crayons • Scissors

PREPARATION

Collect supplies needed to make posters. Hang the collages students made in Lesson 4 in each of the four corners of the room.

LIFE SKILLS

Learn to Be

Self-Management:

- Review progress in realizing goals.

Communication:

- Reading, writing, non-verbal communication skills.



Share (90 minutes)

Directions





1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **Before we begin today's lesson, find the Drink Your Water page in your student book and mark your progress. When your Shoulder Partner is ready, share your successes with each other.**



STUDENTS DO: Record progress. (This is an opportunity for students to practice the Life Skill: Self-Management.)

TEACHER SAY: **We have been planning a lot for a healthy space at school. Today we will design the last piece.**

2. TEACHER SAY: **In the previous lesson, we tested our containers to keep food cold at the canteen in our healthy space. We discovered which designs were best to keep our food cold the longest. Who can tell us which material we decided to use at the canteen?**

TEACHER DO: Use Calling Sticks to choose students until the correct answer is given. The material will depend on those tested.

3. TEACHER SAY: **We have talked about the importance of making healthy food choices. Today, we will bring together all of our learning to make a plan for a healthy living canteen. Let's start by listing all of the required parts of our canteen plan. Another word for part is ELEMENT. When I say "the different elements" of the canteen plan, I mean the different parts. Who can describe something we did this chapter that should be part of our plan? Talk with your Shoulder Partner first and then we will Popcorn.**



STUDENTS DO: Confer with partners, then offer ideas.

TEACHER SAY: **Very good. We designed a healthy space. We learned about nutrients and how to read labels on food packaging to determine if the food is a healthy choice. We learned about the importance of drinking water. We also learned about keeping food cold. All of these things should be ELEMENTS of our canteen plan.**

TEACHER DO: Create a list of requirements on the board or on chart paper. The list should include at a minimum (your class may brainstorm other elements):

- Healthy space design
- Food nutrient information/menu of healthy snacks
- Water importance information
- Cold food storage

Designate an area of the room for each element. You may wish to assign groups or number off, but at this point in the year, it is a good idea to allow some student choice.

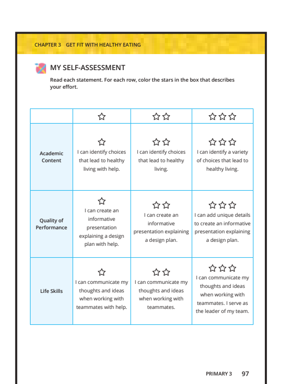
TEACHER SAY: **Let's begin by thinking about which element of the canteen plan you would like to work on using a version of the Four Corners strategy. When you get to the area of the room that matches the part of the canteen you want to work on, find a smaller group of friends to work with if there is a large number of students.**

TEACHER DO: Point to the corresponding corners/areas of the room as you describe the options.



STUDENTS DO: Move to the corner that corresponds with the preferred element and select several students with whom to collaborate.

TEACHER SAY: **Once you have identified a small group to work with, begin by deciding roles and responsibilities. Each group will be required to create a written or drawn design plan and a short presentation explaining why your element helps with healthy living. Remember that the elements should work together. After 15 to 20 minutes, we will talk to other groups to make sure our ideas will support the other parts of our design.**



CHAPTER 3 GET FIT WITH HEALTHY EATING

MY SELF-ASSESSMENT

Read each statement. For each row, color the stars in the box that describes your effort.

	☆	☆☆	☆☆☆
Academic Content	☆ I can identify choices that lead to healthy living with help.	☆☆ I can identify choices that lead to healthy living.	☆☆☆ I can identify a variety of choices that lead to healthy living.
Quality of Performance	☆ I can create an informative presentation explaining a design plan with help.	☆☆ I can create an informative presentation explaining a design plan.	☆☆☆ I can add unique details to create an informative presentation explaining a design plan.
Life Skills	☆ I can communicate my thoughts and ideas when working with teammates with help.	☆☆ I can communicate my thoughts and ideas when working with teammates.	☆☆☆ I can communicate my thoughts and ideas when working with teammates. I serve as the leader of my team.

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4. TEACHER DO: Allow students time to discuss ideas and find a group. Hand out student books.

TEACHER SAY: **Open your student books to the page My Self-Assessment. Read along with me as we review together.**

TEACHER DO: Guide students through the expectations as outlined by the rubric. Answer any questions students may have.

TEACHER SAY: **Now that you know your goals, let's begin by opening your student books to the page Our Canteen Plan. Read the directions to yourself.**



STUDENTS DO: Read directions.



CHAPTER 3 GET FIT WITH HEALTHY EATING

Lesson 10

OUR CANTEEN PLAN

Use the space below to create the design plan and group presentation.

ELEMENT OF THE CANTEEN

DESIGN PLAN

Our Presentation

(Be sure to talk about how your element improves healthy living, explain your design plan, and discuss how your element works with the other groups.)

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TEACHER SAY: **There are three things for your group to do. First, explain your element of the canteen in the box provided. You might want to come up with a creative name, like Hydration Station, if you are the water group. Second, draw or write your design plan in the next box.**

Finally, plan your presentation. Everyone, please find the section with the subtitle, "Our Presentation."



STUDENTS DO: Locate presentation section in student books.

TEACHER SAY: **Read the directions for the presentation. When you are finished, hold up your fingers with how many different parts there should be to your presentation.**



STUDENTS DO: Read instructions. Indicate there are three parts to the presentation.

TEACHER SAY: **Yes, there are three different parts to the presentation. First, you should talk about how your element improves healthy living. Second, you should explain your design plan. Third, you should discuss how your element works with the other groups. Let's get working. Remember that in about 15 to 20 minutes, I will ask you to circulate with other groups to discuss how your elements work together.**



TEACHER DO: As students work, circulate around the room to provide assistance. Remember to allow students to confer with other working groups. This is an opportunity for students to practice the Life Skill: Communication. Ensure that every student is completing the entire planning page, as students will leave their working groups for the presentations.

5. TEACHER SAY: Now that you have completed your work in teams, let's prepare to share our design. We are going to share in a different way today. It is related to a strategy we have used before called Jigsaw. You are going to present your elements to students from other groups. I will help you make groups of four, one student from each of our elements. Let's make our groups now.

TEACHER DO: Instruct students into collaborative groups with one (or more) student from each element. Students should bring their student books with them and sit quietly until you ask groups to present.

CHAPTER 3 GET FIT WITH HEALTHY EATING

MY SELF-ASSESSMENT

Read each statement. For each row, color the stars in the box that describes your effort.

	☆	☆☆	☆☆☆
Academic Content	☆ I can identify choices that lead to healthy living with help.	☆☆ I can identify choices that lead to healthy living.	☆☆☆ I can identify a variety of choices that lead to healthy living.
Quality of Performance	☆ I can create an informative presentation explaining a design plan with help.	☆☆ I can create an informative presentation explaining a design plan.	☆☆☆ I can add unique details to create an informative presentation explaining a design plan.
Life Skills	☆ I can communicate my thoughts and ideas when working with teammates with help.	☆☆ I can communicate my thoughts and ideas when working with teammates.	☆☆☆ I can communicate my thoughts and ideas when working with teammates. I serve as the leader of my team.

PRIMARY 3 97



STUDENTS DO: Move into groups as directed by the teacher.

TEACHER DO: Instruct students to begin presenting to each other. You may leave this time open-ended, or you may wish to add more structure, such as allowing each student a specific amount of time and using a bell or other **Attention Getting Signal** to indicate it is time for presenters to switch. Once students have finished, have them complete the page My Self-Assessment based on their work on the Share Project. Review the procedure or content of the rubric as needed.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: We have just completed our theme on being healthy. What is something new that you learned about being healthy in these three chapters? Turn to share with a Shoulder Partner.



STUDENTS DO: Share new learning with **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to select four students to share what they learned in this theme. Modify the number of students based on the time you have left in class.

TEACHER SAY: Now turn back to your Shoulder Partner and share with him or her one thing you still wonder about being healthy.



STUDENTS DO: Share remaining questions with **Shoulder Partner**.

TEACHER SAY: Please turn to your partners and thank them for helping you learn about healthy living.



STUDENTS DO: Thank classmates for supporting learning.

Rubric Assessment (for teacher use)

	Approaching Expectation (1)	Meeting Expectation (2)	Exceeding Expectation (3)
Academic Content	Identifies choices that contribute to healthy living with support from peers or the teacher. *Economics and Applied Sciences C.1.a,b*	Identifies choices that contribute to healthy living. *Economics and Applied Sciences C.1.a,b*	Identifies a variety of choices that contribute to healthy living. Models healthy choices for peers. *Economics and Applied Sciences C.1.a,b*
	Creates a presentation of a design plan that includes some of the three required parts. *Speaking and Listening A.2.a*	Creates a presentation of a design plan that includes the three required parts. *Speaking and Listening A.2.a*	Creates a unique or extraordinary presentation of a design plan that includes the three required parts. *Speaking and Listening A.2.a*
	Works with group members to create a design plan and short presentation but may have difficulty being cooperative. *Vocational Fields A.1.b*	Works cooperatively with group members to create a design plan and short presentation. *Vocational Fields A.1.b*	Works cooperatively with group members to create a design plan and short presentation. Shows leadership and assists teammates. *Vocational Fields A.1.b*
	Identifies natural resources that contribute to healthy living with help from peers or the teacher. *Science B.1.a*	Identifies natural resources that contribute to healthy living. *Science B.1.a*	Identifies a wide variety of natural resources that contribute to healthy living. *Science B.1.a*
Quality of Performance	Explains why a given choice does/does not support healthy living with help from peers or the teacher.	Explains why a given choice does/does not support healthy living.	Explains why a given choice does/does not support healthy living in thoughtful detail.
	Includes details in the design plan and presentation but they do not clearly connect to healthy living.	Includes details in the design plan and presentation that clearly connect to healthy living.	Includes details in the design plan and presentation that clearly connect to healthy living. The work is unique or especially thoughtful.
Life Skills	Has difficulty communicating with peers when completing a task together. *Communication*	Communicates effectively with peers when completing a task together. *Communication*	Communicates effectively with peers when completing a task together. Shows leadership and assists teammates in this area. *Communication*
	Describes the steps already carried out and the steps required moving forward with help from peers or the teacher. *Self-Management*	Describes the steps already carried out and the steps required moving forward. *Self-Management*	Articulates the steps already carried out and the steps required moving forward in an especially thoughtful or insightful way. *Self-Management*

PRIMARY 3

Multidisciplinary

THE WORLD AROUND ME

TAKING CARE OF OUR WORLD

Chapter 1: When Habitats Change

Chapter Overview

When Habitats Change

COMPONENT	DESCRIPTION	LESSONS
Discover	Students explore similarities and differences of local and regional habitats. Students discover similarities and differences between habitats in different parts of the world.	3
Learn	Students apply prior knowledge of maps to observing world maps and globes, then identify where various habitats are found in the world. Students analyze how living organisms interact with each other and with non-living things in a habitat, then consider how organisms can help and hurt their environments.	5
Share	Students create an informational brochure to teach others about the impact of changes to an environment in a local habitat. Students advocate for minimizing the negative impact of changes in order to benefit living organisms.	2

Connection to Issues



Environment and Development: Our earth and environment need to be sustained. We can appreciate and care for the environment as a community.

Life Skills Addressed



DIMENSION	DESCRIPTION
Learn to Know	**Critical Thinking:** • Identify subject/topic-related information. • Distinguish between different perspectives and points of view. • Explain thinking processes. **Problem-Solving:** • Collect problem-related data.
Learn to Work	**Collaboration:** • Respect for other opinions. **Decision-Making:** • Identify results and expected results.
Learn to Live Together	**Respect for Diversity:** • Solicit and respect multiple and diverse perspectives to broaden and deepen understanding. **Sharing:** • Effective management and organization of tasks.
Learn to Be	**Communication:** • Reading, writing, non-verbal communication skills.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

D. Reading Skills: Fluency

1.a. Read texts at grade-appropriate difficulty with a level of accuracy and fluency to support understanding.

F. Reading Comprehension: Informational Text

3.a. Answer questions about the relationship between a series of events, ideas, or steps in a procedure in a text, using language that pertains to time, sequence, and cause/effect.
4.a. Ask and answer questions to define the meaning of academic and subject-specific words and phrases.
5.a. Use text features (such as headings, subheadings, text color, table of contents) to locate information relevant to a given topic efficiently.
8.a. Read and comprehend informational text at appropriate difficulty level for Primary 3.

G. Language: Vocabulary Acquisition and Use

1.g. Demonstrate command of the conventions of grammar and usage when writing or speaking.

WRITING:

A. Foundational Skills

1.a. Write complete sentences using punctuation, prepositions, and coordinating conjunctions (such as ف ,ثم ,و) as appropriate.
1.b. Write words and sentences, considering the size of the letters and the spaces between words and sentences.

D. Process, Production, and Research

3.a. Research a specific topic or question using a variety of resources.

SPEAKING AND LISTENING:

A. Foundational Skills

1.a. Engage effectively in a range of collaborative discussions with peers and adults in small and larger groups.
1.b. Follow agreed-upon rules for discussions.
1.c. Listen to the speaker with interest and attention until the end of the statement or story.
1.e. Listen to speakers in order to make connections; comprehend; and gain, clarify, or deepen understanding of a topic or issue.
1.f. Build on others' ideas in discussion and express own ideas clearly.
2.a. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details.
3.a. Use audio, digital, and visual media (drawings, graphs, or displays) in presentations.
4.a. Speak clearly and at an understandable pace with appropriate tone, gestures, and body language.
5.a. Speak in complete sentences, following grammatical rules, in order to provide requested detail or clarification.

MATH:

C. Numbers and Operations in Base Ten

3.a. Describe a proper fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts.

D. Measurement and Data

4.a. Collect, organize, and represent numerical data on a line plot.
4.b. Solve story problems and analyze data displayed on a line plot.

E. Geometry

1.b. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.
1) For example, partition a shape into 4 parts with equal area and describe the area of each part as 1/4 of the area of the shape.

SCIENCE:

A. Skills and Processes

1.c. Represent data in tables to reveal patterns.
1.d. Construct an explanation with evidence (such as observations, patterns) and/or data.
1.f. Listen actively to arguments and indicate agreement or disagreement based on evidence.
1.g. Communicate information with others in oral and written forms.

E. Environmental Science

1.a. Analyze a habitat to determine its ability to meet the needs of different living organisms.
1.b. Describe the impact of environmental changes on living organisms in various habitats.
1.c. Analyze the interactions between living organisms and nonliving things in a habitat.
1.d. Using evidence, explain how an organism can both benefit and damage its environment.

SOCIAL STUDIES:

C. Understanding the World from a Spatial Perspective

1.a. Identify the locations of natural and human-made features (landmarks) in the region of North Africa and the Middle East.
1.b. Locate oceans, continents, major countries, and bodies of water on maps and globes.
1.d. Compare and contrast physical features of different regions of the world.
1.e. Describe the relationship between climate and the physical features of a global region.

VISUAL ART:

B. Presenting Visual Art

1.c. Create and explain works of art that express content learned in other curricular areas.

INFORMATION AND COMMUNICATION TECHNOLOGIES:

A. Essential Concepts and Process

1.c. Explain how digital technologies can improve and develop how we live and work (such as through organization, time management, and communication tools).

C. Technological Production Tools

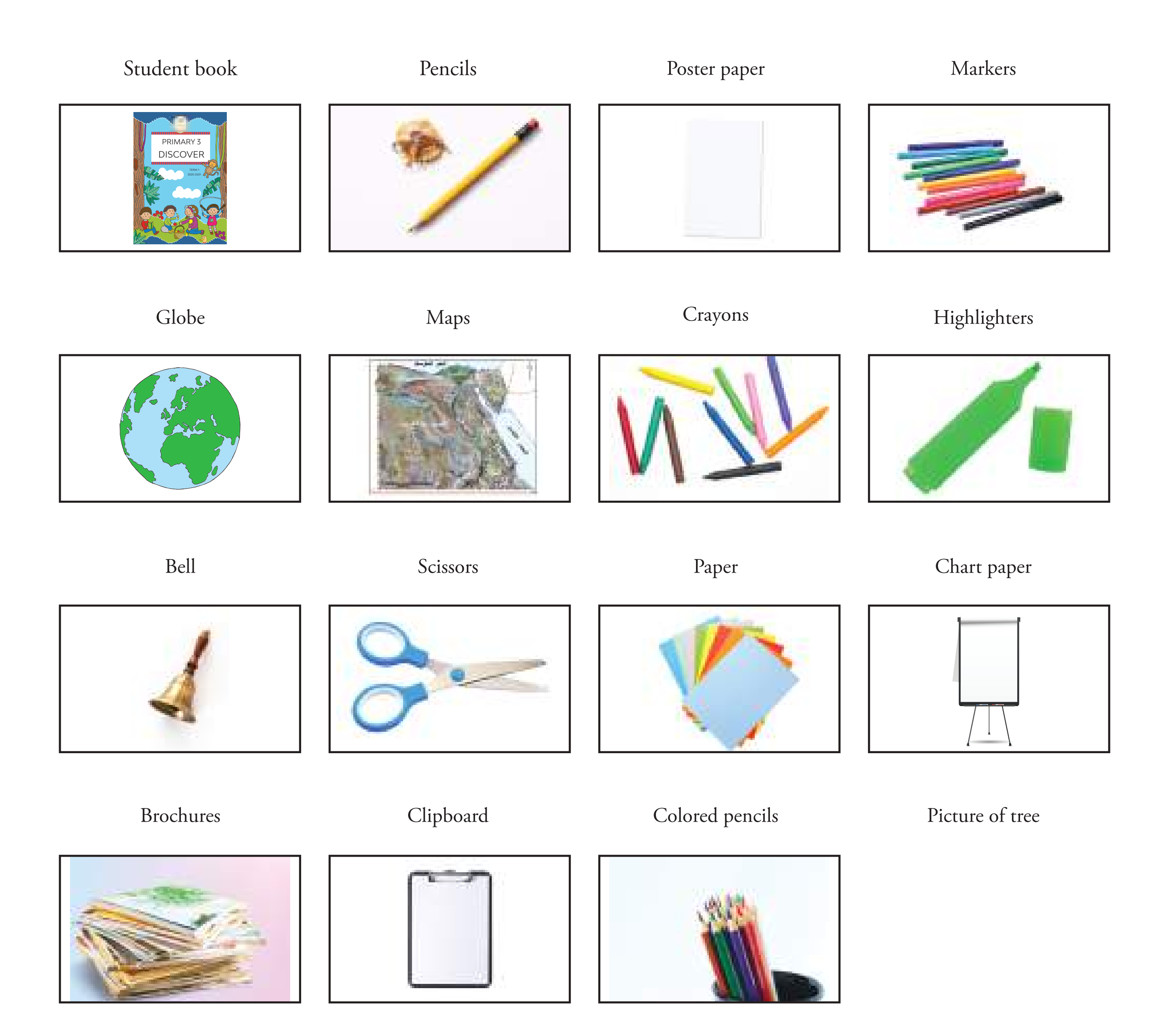
1.a. Demonstrate basic knowledge of common computer applications (such as how to create, edit, print, save, use a menu, copy and paste).
1.b. Use age-appropriate online tools and resources (such as a tutorial, assessment, or web browser).
1.c. Identify the appropriate program or application to complete a task.
2.b. Use digital sources to search for and collect content to answer a specific question.

CH 1

Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	**DISCOVER: Students will:** • Describe habitats in the local community. • Describe how habitats meet the needs of living things.
2	**DISCOVER: Students will:** • Define and use the term "organism." • Read informational text to learn about habitats around the world. • Organize new information using a graphic organizer. • Compare and contrast habitats.
3	**DISCOVER: Students will:** • Communicate similarities and differences between two habitats in writing. • Connect living organisms to their natural habitats. • Use evidence to support answers to a question.
4	**LEARN: Students will:** • Explain the purpose of maps and globes. • Identify the differences between a map and a globe. • Locate bodies of water and continents on a map and a globe. • Apply map tools (cardinal directions, key) to locate habitats on a map.
5	**LEARN: Students will:** • Analyze interactions between living and non-living parts in a habitat. • Use evidence to explain why an animal could or could not survive in a habitat.
6	**LEARN: Students will:** • Identify environmental changes in various habitats. • Explain the impact of environmental changes on living things.
7	**LEARN: Students will:** • Research how living things can benefit and hurt a habitat. • Provide support for a statement using evidence.
8	**LEARN: Students will:** • Collect, analyze and display data to demonstrate how changes in the environment may affect the survival of organisms in that environment.
9	**SHARE: Students will:** • Create an informational brochure to teach others about the impact of changes to an environment.
10	**SHARE: Students will:** • Describe ways to minimize impact and changes to living organisms in a local habitat. • Consider different points of view on a topic.

Materials Used



Lesson 1 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Describe habitats in the local community. • Describe how habitats meet the needs of living things.	• Habitat • Needs	• Student books • Pencils

LIFE SKILLS

Learn to Work

Collaboration:
- Respect for other opinions.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter.

TEACHER SAY: We are starting a theme called, "Taking Care of Our World." What do you think we might learn?

TEACHER DO: Use **Calling Sticks** to choose three students to answer the question before continuing.

 **STUDENTS DO:** Predict what they will learn.

TEACHER SAY: The first chapter in our new theme is, "When Habitats Change." What do you think this phrase means?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: We will be studying living things and where they find what they need to survive. We will also examine how living things can both help and hurt their environment. In previous years you have learned an important word for the environment where an animal lives. Who can remember our word?

 **STUDENTS DO:** Suggest vocabulary words from memory (habitat).

2. TEACHER SAY: We are going to learn a lot about habitats in this chapter. For our Share Project, we will create an informational brochure to teach others about how certain changes impact a habitat. In order to do that, we need to deeply understand habitats and how they work. Let's take a moment before we begin to think about what we already know about habitats. A habitat is the environment where plants and animals normally live and grow. Who can describe a nearby habitat?

 **STUDENTS DO:** Share ideas.

TEACHER DO: Use student answers to compile a rich description of a local habitat. This could include a lake, river, or desert habitat that may be familiar to students. Be sure to include in the

description the plants, animals, and non-living things that are found in the habitat. During the discussion, take notes on the board to be referenced later in the lesson. Then hand out student books.

TEACHER SAY: Open your books to the page Close Observations. To start our thinking, we will use this picture. Take a quiet moment to observe. What do you see? What plants? Animals?

TEACHER DO: Provide **Think Time** for students to observe the picture in their books.

TEACHER SAY: Turn and talk to your Shoulder Partner about what you notice in the picture.



STUDENTS DO: Share observations with **Shoulder Partner**.

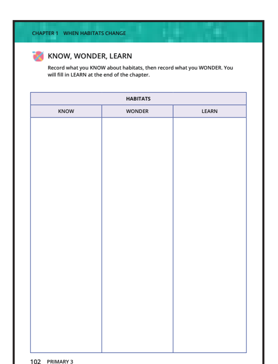
TEACHER SAY: Have you ever seen a place like this? Where?



STUDENTS DO: Share experiences.

TEACHER SAY: How does this picture help you begin to think about habitats?

STUDENTS DO: Share ideas.



3. TEACHER SAY: You already know a lot about habitats. Let's start our chapter by recording the information we already know. Turn to the next page Know, Wonder, Learn. Think about a habitat you can see nearby and continue to study the previous picture. What do you already know and understand about parts of a habitat? I already know that a habitat has animals, because in our picture I saw a bird and a fish. I can write that in the KNOW part of the chart. Turn and talk to your Shoulder Partner about what you know about habitats.



STUDENTS DO: Share what they know with **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to allow four or five students to share what they will write on their chart.



READ ALOUD: Record what you KNOW about habitats, then record what you WONDER. You will fill in LEARN at the end of the chapter.

TEACHER SAY: I can tell we already have a lot of prior knowledge about habitats. Take a moment now to write what you know in the first column of the chart.



STUDENTS DO: Record prior knowledge about habitats in the **KWL Chart**.

TEACHER DO: Encourage students to write two or three known facts about habitats before continuing.

TEACHER SAY: Thank you for taking time to recall what you already know about habitats. We will be adding to our knowledge throughout this unit. Now, we are going to take a moment to think about what you WONDER. What you want to know about habitats? What questions do you have that you hope to answer throughout this unit? I wonder if an animal can survive or live in more than one type of habitat. What do you WONDER?

TEACHER DO: Provide **Think Time** for students to consider questions they may have about habitats. Then use **Calling Sticks** to allow five or six students to share questions.

TEACHER SAY: In your book, write at least two questions you hope to answer during our unit. Record these questions in the WONDER column of the KWL Chart.



STUDENTS DO: Record two questions on the **KWL Chart**.

TEACHER DO: Monitor students to provide enough time for writing and assist students with spelling or writing complete questions as needed.

TEACHER SAY: Turn to your Shoulder Partner and share one of your questions.



STUDENTS DO: Share habitat questions.

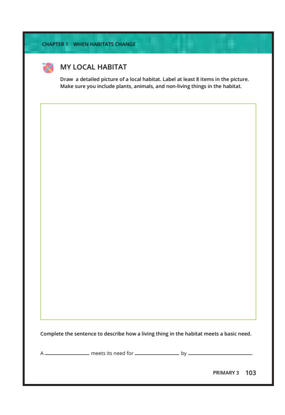
4. TEACHER SAY: Thank you for taking time to think about what you already know about habitats and to begin thinking about what we can learn. We will revisit this chart to record notes as we learn. We are going to learn about many different types of habitats in this chapter. We will learn about habitats all over the world. Let's get ready to work out our brains by thinking about what is nearby. We briefly described a local habitat at the beginning of our lesson. Let's see if we can add more details to our description. First, look at our list of plants in a nearby habitat. Which of these plants are tall? Which are low to the ground?



STUDENTS DO: Share details of local plants from memory.

TEACHER DO: Facilitate a detailed conversation about the habitat previously discussed. Ask students questions, such as:

- Do you think the plants need a lot or only a little water?
- Do you know of any animals that eat the plants? Which parts?
- We listed some animals, but what about bugs? What insects have you seen in the habitat?
- Where do you think [an animal on the list] sleeps in the habitat?
- How would you describe the weather in the habitat?
- What is non-living in the habitat? (If needed, provide examples such as water, sand, or rocks.)



CHAPTER 1 WHEN HABITATS CHANGE

MY LOCAL HABITAT

Draw a detailed picture of a local habitat. Label at least 8 items in the picture. Make sure you include plants, animals, and non-living things in the habitat.

Complete the sentence to describe how a living thing in the habitat meets a basic need.

A ______________ meets its need for ______________ by ______________.

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TEACHER SAY: Let's record what we know about our local habitat. Instead of listing facts in words, we are going to draw a detailed picture that shows how the many parts we have described exist together in one space. Turn to the next page in your book titled My Local Habitat.



READ ALOUD: Draw a detailed picture of a local habitat. Label at least 8 items in the picture. Make sure you include plants, animals, and non-living things in the habitat.

TEACHER SAY: You may work with your Shoulder Partner to share ideas as you draw and label a local habitat.



STUDENTS DO: Collaborate with their **Shoulder Partner** to draw and label a local habitat.

TEACHER DO: Observe as students draw and label. Ask students questions such as: What would that animal need to eat in this habitat? Where would the animal make its home? Your questions should help students to add more details to their pictures.

5. Note to Teacher: Use this next activity as a preassessment of students' understanding of an animal's basic needs and how a habitat can meet those needs.

TEACHER SAY: Great job describing our local habitat. We learned last year that a habitat meets the needs of living things. Remember that all living things need water, food, air, and space to live and grow. Think about how the habitat you drew meets the needs of the living things. How do the plants and animals get water? What about nutrition or food? Where do the animals make a safe home?

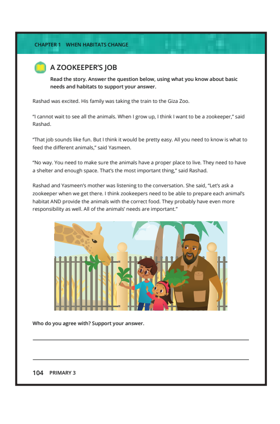


READ ALOUD: Complete the sentence to describe how a living thing in the habitat meets a basic need.

TEACHER DO: Model how you would fill out the sentence frame. For example, "A caracal meets its need for food by eating small rodents." Provide students an opportunity to rehearse the sentence with their **Shoulder Partner** before writing it in the student book.

Note to Teacher: If you feel as though students need more support based upon their prior knowledge, you may allow students to write a sentence with a partner or list options together on chart paper. You may have a list of animals from the local community to discuss prior to beginning the activity.

6. TEACHER DO: Use **Calling Sticks** to have students share sentences. On chart paper record the basic needs identified by students.



CHAPTER 1 WHEN HABITATS CHANGE

A ZOOKEEPER'S JOB

Read the story. Answer the question below, using what you know about basic needs and habitats to support your answer.

Rashad was excited. His family was taking the train to the Giza Zoo.

"I cannot wait to see all the animals. When I grow up, I think I want to be a zookeeper," said Rashad.

"That job sounds like fun. But I think it would be pretty easy. All you need to know is what to feed the different animals," said Yasmeen.

"No way. You need to make sure the animals have a proper place to live. They need to have a shelter and enough space. That's the most important thing," said Rashad.

Rashad and Yasmeen's mother was listening to the conversation. She said, "Let's ask a zookeeper when we get there. I think zookeepers need to be able to prepare each animal's habitat AND provide the animals with the correct food. They probably have even more responsibility as well. All of the animals' needs are important."

Who do you agree with? Support your answer.

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TEACHER SAY: I can tell you all know a lot about what living things need and how the habitat meets those needs. I wonder: Is one need more important than another? On the next page, A Zookeeper's Job, there is a story that will help us consider this very question. Rashad is about to visit the Giza Zoo with his family. As we read, listen for different perspectives. Think about who you agree with in the story.



READ ALOUD: Read the story. Answer the question below, using what you know about basic needs and habitats to support your answer.

TEACHER DO: Depending on your class's reading ability, you may read the story as a class or have students read independently.



STUDENTS DO: Read the story.

TEACHER SAY: Who do you think is right? Do you agree with Yasmeen that providing correct food is the most important thing for animals at a zoo? Do you agree with Rashad that giving the animal the correct place to live is the most important thing? Or do you agree with their mother that all the animals' needs are important? Take a moment to think about what you know and understand about animal needs to decide on your answer.

TEACHER DO: Provide **Think Time** before continuing.

TEACHER SAY: Once everyone has written an answer, we will discuss our thinking in small groups.



STUDENTS DO: Record answers.

TEACHER DO: Provide quiet working time for students to record answers. Then put students into groups of five or six. Use a **Talking Stick** to allow each person in the group to share an answer.

TEACHER SAY: Thank you for working on your own to decide who you agree with. Now, in your small group, you will take turns sharing your answer and your reasoning. After everyone shares, see if you can come to an agreement as a group.



STUDENTS DO: Share answers using a **Talking Stick**, then come to a consensus on an answer as a group.



TEACHER DO: Circulate around the room as students share. Make note of reasons students give to support their answers and provide feedback. You may ask extending questions such as, "Do you think the only animals at the zoo are from Egypt? Do you think a zookeeper can help an animal from a forest habitat live at this zoo?" This is an opportunity for students to practice the Life Skill: Collaboration.

TEACHER SAY: Thank you for collaborating and sharing your ideas. I will ask one person from each group to share who you think had the most correct thinking from our story.

TEACHER DO: Ask a student from each group to share. Ask follow up questions to allow students an opportunity to explain their reasoning. Respond to student answers to extend the discussion depending on students' levels of understanding.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we thought about what we already know about habitats and thought about what we would like to learn during this unit of study. We also explored how living things rely on their natural habitats to meet all of their basic needs. Turn and share with your Shoulder Partner one way a habitat can meet the need of a living thing.



STUDENTS DO: Share with a partner.

Lesson 2 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Define and use the term "organism." • Read informational text to learn about habitats around the world. • Organize new information using a graphic organizer. • Compare and contrast habitats.	• Grassland • Organism • Polar • Rainforest • Wetland	• Student books • Pencils • Large poster paper (optional)

PREPARATION

If you choose, you may prepare large **Venn Diagrams** for students to complete and to be displayed in the classroom.

LIFE SKILLS

Learn to Live Together

Sharing:

- Effective management and organization of tasks.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In our last lesson, we discussed how an animal's natural habitat meets all of its basic needs. Turn and talk to your Shoulder Partner about a habitat you hope to continue learning about during this chapter.**



STUDENTS DO: Name a habitat they want to learn about.

TEACHER DO: Use **Calling Sticks** to have students share with the class.

TEACHER SAY: **In Egypt, much of our country consists of desert, ocean, and river habitats. There are many other habitats that exist outside of Egypt. Today we are going to explore several different habitats from around the world.**

2. TEACHER DO: Hand out student books.

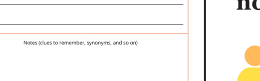
TEACHER SAY: **Before we begin studying new habitats, let's learn a new vocabulary word we will use throughout this chapter. Everyone, whisper the name of a living thing on the count of three.**



STUDENTS DO: **Whisper** the name of a living thing, either plant or animal.

TEACHER DO: Call out four or five examples you heard from students.

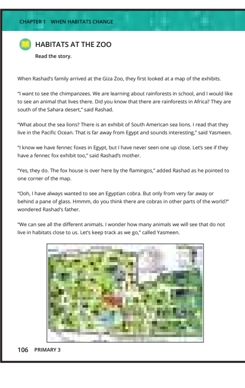
TEACHER SAY: **Yes, you all named great examples of living things. Today we are going to learn a new word that is more accurate than saying "living things" for this category. The new word is: ORGANISM. The two new categories we will study in our habitats are living organisms and non-living things. Everyone, let's say that word together.**



STUDENTS DO: Repeat the word ORGANISM.

TEACHER SAY: **Turn to the page Vocabulary: Organism in your books.**

TEACHER DO: Facilitate a discussion about the new vocabulary word to walk students through filling out the vocabulary page as in previous lessons. Be sure to highlight that living organisms include both plants and animals.


CHAPTER 1 WHEN HABITATS CHANGE

HABITATS AT THE ZOO

Read the story.

When Rashad's family arrived at the Giza Zoo, they first looked at a map of the exhibits.

"I want to see the chimpanzees. We are learning about rainforests in school, and I would like to see an animal that lives there. Did you know that there are rainforests in Africa? They are south of the Sahara desert," said Rashad.

"What about the sea lions? There is an exhibit of South American sea lions. I read that they live in the Pacific Ocean. That is far away from Egypt and sounds interesting," said Yasmeen.

"I know we have fennec foxes in Egypt, but I have never seen one up close. Let's see if they have a fennec fox exhibit too," said Rashad's mother.

"Yes, they do. The fox house is over here by the flamingos," added Rashad as he pointed to one corner of the map.

"Ooh, I have always wanted to see an Egyptian cobra. But only from very far away or behind a pane of glass. Hmmm, do you think there are cobras in other parts of the world?" wondered Rashad's father.

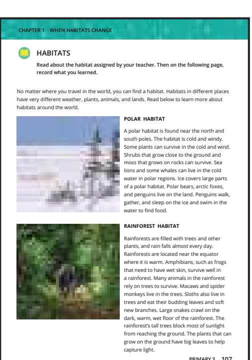
"We can see all the different animals. I wonder how many animals we will see that do not live in habitats close to us. Let's keep track as we go," called Yasmeen.

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3. TEACHER SAY: Living organisms are an essential part of our study of habitats. I mentioned earlier that today we are going to study habitats from around the world. To inspire our learning, let's read more about our friend's trip to the zoo on page Habitats at the Zoo. Do you think only animals from Egypt live at the Giza Zoo? Or, do you think the zoo is able to create habitats for many different animals? Turn and share your ideas with your Shoulder Partner.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER DO: Read the story aloud or have students read with a partner. If students are not familiar with the animals named, review these before having partners read the story.


CHAPTER 1 WHEN HABITATS CHANGE

HABITATS

Read about the habitat assigned by your teacher. Then on the following page, record what you learned.

No matter where you travel in the world, you can find a habitat. Habitats in different places have very different weather, plants, animals, and lands. Read below to learn more about habitats around the world.

POLAR HABITAT

A polar habitat is found near the north and south poles. The habitat is cold and windy. Some plants can survive in the cold and wind. Shrubs that grow close to the ground and moss that grows on rocks can survive. Sea lions and some whales can live in the cold water in polar regions. Ice covers large parts of a polar habitat. Polar bears, arctic foxes, and penguins live on the land. Penguins walk, gather, and sleep on the ice and swim in the water to find food.

RAINFOREST HABITAT

Rainforests are filled with trees and other plants, and rain falls almost every day. Rainforests are located near the equator where it is warm. Amphibians, such as frogs that need to have wet skin, survive well in a rainforest. Many animals in the rainforest rely on trees to survive. Macaws and spider monkeys live in the trees. Sloths also live in trees and eat their budding leaves and soft new branches. Large snakes crawl on the dark, warm, wet floor of the rainforest. The rainforest's tall trees block most of sunlight from reaching the ground. The plants that can grow on the ground have big leaves to help capture light.

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4. TEACHER SAY: Some of the animals our friends want to see do not live in habitats we can find in Egypt. We know we have desert, ocean, and river habitats in our country. Let's learn about some other habitats around our world. On the next page, Habitats, you will find information about four different habitats: polar, rainforest, grassland, and wetland. We will Jigsaw to learn and teach each other about these habitats.

Note to Teacher: For this **Jigsaw**, *students should be assigned one habitat to read. Allow students reading about the same habitat to collaborate to complete the graphic organizer. Then, place students into groups of four, making sure that each habitat is represented in the group. In the new groups of four, students will take turns sharing information about the habitat they studied and will take notes on those they were not assigned.*

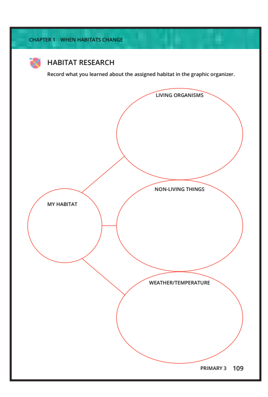
TEACHER DO: Assign a habitat to each student or table of students, making sure to have a roughly equal number of students reading about each habitat.

 **READ ALOUD: Read about the habitat assigned by your teacher. Then on the following page, record what you learned.**

TEACHER SAY: As you look at this page, what text feature will help you find the part about the habitat you have been assigned?

 **STUDENTS DO:** Share ideas (subheadings).

TEACHER SAY: Yes, texts that provide information—instead of tell a story—are often divided into sections. The subheadings help us find the information we want to read on the page. Please put your finger on the subheading that lists your assigned habitat.


CHAPTER 1 WHEN HABITATS CHANGE

HABITAT RESEARCH

Record what you learned about the assigned habitat in the graphic organizer.

MY HABITAT

LIVING ORGANISMS

NON-LIVING THINGS

WEATHER/TEMPERATURE

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TEACHER DO: Glance around the room to ensure students have identified the correct sections. If whole tables were assigned one habitat, have students confirm choices with their peers.

TEACHER SAY: On the page after the habitat descriptions, you will find a graphic organizer titled Habitat Research. Record the relevant information in each box: living organisms, non-living things, weather/temperature. Work with other students assigned the same habitat as you. Then we will be able to share what we learned with others. When we are finished, you will be able to describe and compare each habitat.

 **STUDENTS DO:** Read about one habitat and complete the graphic organizer.

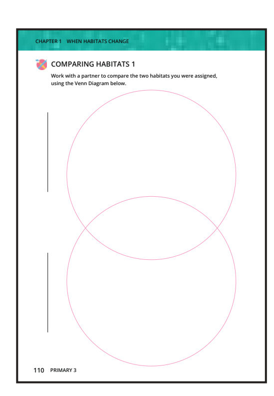


TEACHER DO: Once students have finished the graphic organizer, rearrange students into groups of four, with every habitat represented in each group. You may facilitate sharing using **Talking Sticks** or by calling out each habitat when it is time to share. This is an opportunity for students to practice the Life Skill: Sharing.

TEACHER SAY: In your new group, share what you learned about your habitat. As you politely listen to your group members, listen to hear characteristics that are the similar to and different from your habitat.

TEACHER DO: Model how students should share information from the graphic organizer.

 **STUDENTS DO:** Share information from the graphic organizer in small groups.


CHAPTER 1 · WHEN HABITATS CHANGE

COMPARING HABITATS 1

Work with a partner to compare the two habitats you were assigned, using the Venn Diagram below.

110 PRIMARY 3

5. TEACHER SAY: Great job sharing and listening in your groups. You know something about four different habitats now. Let's see what we can learn by comparing two of the habitats. Work with one partner from your group to complete the Venn Diagram on the next page, Comparing Habitats 1. Watch as I begin a Venn Diagram comparing grassland and rainforest.

TEACHER DO: Model how to complete the **Venn Diagram**. Write "Grassland" above the left circle and "Rainforest" above the right circle. Write one characteristic of the habitat that applies only to grassland in the left circle, such as, "Has few trees." Then in the right circle write, "Has many trees." In the overlapping section, write a characteristic that applies to both habitats, such as, "Can feel very warm." Students can complete their work in the student books, or they can use the student books to draft ideas to record on the large format **Venn Diagrams** if you prepared them.

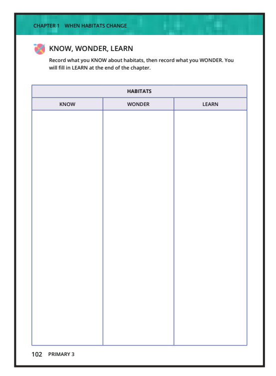
TEACHER SAY: We will have many different comparisons: grassland and rainforest, grassland and wetland, grassland and polar, rainforest and wetland, rainforest and polar, wetland and polar. By working together and sharing what we know, we will all be able to understand similarities and differences across the habitats. We will finish our Venn Diagrams today and use them to write comparative sentences tomorrow.

 **STUDENTS DO:** Collaborate with partners to complete **Venn Diagrams** comparing two habitats.

Note to Teacher: If time allows, you may choose to have students orally present their **Venn Diagrams** *to the whole class. Otherwise, use a* **Gallery Walk** *to have students quietly observe the various comparisons.*

TEACHER DO: After providing time to complete the **Venn Diagrams**, decide how students will share their comparisons.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.


CHAPTER 1 · WHEN HABITATS CHANGE

KNOW, WONDER, LEARN

Record what you KNOW about habitats, then record what you WONDER. You will fill in LEARN at the end of the chapter.

HABITATS		
KNOW	WONDER	LEARN

102 PRIMARY 3

TEACHER SAY: You did a great job organizing what you discovered about four different habitats today. I wonder, were you able to answer any of your questions from your KWL Chart? Did you learn any new information? Turn back to page Know, Wonder, Learn. In the LEARN column, record one thing you learned about habitats today.

 **STUDENTS DO:** Record one new learning from today.

Lesson 3 Overview

LEARNING OUTCOMES
Students will: • Communicate similarities and differences between two habitats in writing. • Connect living organisms to their natural habitat. • Use evidence to support answers to a question.

KEY VOCABULARY
• Boa constrictor (snake) • Giraffe • Polar bear • Salamander

MATERIALS
• Student books • Pencils • Large pictures of a tree and four habitats

PREPARATION
If possible, find and print a large picture of a tree and pictures of the four habitats studied in the previous lesson (polar, rainforest, grassland, wetland) that are big enough to hang around the classroom and be seen by most of the class.

LIFE SKILLS	
Learn to Know	Learn to Be
Critical Thinking: • Explain thinking processes.	Communication: • Reading, writing, non-verbal communication skills.



Discover (90 minutes)

Directions

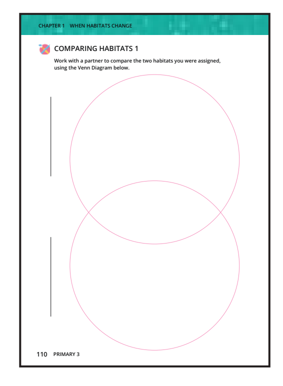
1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our last lesson, we discovered that habitats around the world can have similarities and differences. Every habitat is different and can support the needs of a variety of living things. At the front of the room, I have a picture of a tree. Turn and talk to your Shoulder Partner about where this tree might grow and where this tree could not grow. Use what you discovered in our last lesson to support your answers.



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to allow several students to share, prompting students to support answers with learning from the previous lesson.



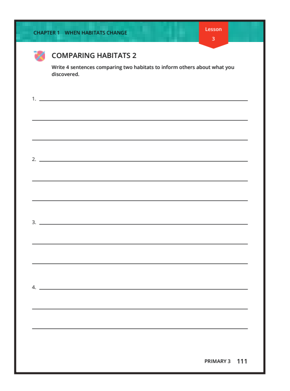
2. TEACHER SAY: In our last lesson you completed a Venn Diagram to organize the information we learned about two habitats. The format of the Venn Diagram helps us compare two things by placing notes in a specific place. What we write in the outside parts is unique to one of the habitats, and what we write in the middle is what the two have in common. Imagine you wanted to share what you have learned with your family. Would giving them your Comparing Habitats 1 page help them easily understand what you learned? Why or why not? Discuss this with your Shoulder Partner.





STUDENTS DO: Discuss the benefits and drawbacks of communicating to others using a **Venn Diagram**. (This is an opportunity for students to use the Life Skill: Critical Thinking.)

TEACHER SAY: The Venn Diagram might help a family member see some similarities and differences. Since they were not in class with us, though, they may not understand our short notes. Now that we have organized our ideas, let's take the information on our diagram to write a few


CHAPTER 1 WHEN HABITATS CHANGE Lesson 3

COMPARING HABITATS 2

Write 4 sentences comparing two habitats to inform others about what you discovered.

1.

2.

3.

4.

PRIMARY 3 111



complete sentences comparing your two habitats. Turn to the page Comparing Habitats 2.



READ ALOUD: **Write 4 sentences comparing two habitats to inform others about what you learned.**

TEACHER DO: If students need extra support, consider writing **Model** comparison sentences (one describing a similarity and one describing a difference) with the class before releasing students to work independently. Emphasize the conjunctions used in each circumstance to support application of literacy skills. As students work, circulate around the room to provide further assistance where needed.



STUDENTS DO: Use information in the **Venn Diagram** to write four complete comparison sentences. (This is an opportunity for students to use the Life Skill: Communication.)

TEACHER SAY: **Let's share our comparison sentences using the strategy Shake It Share It High Five.**

3. TEACHER DO: Hang up images of the four habitats, if possible: rainforest, grassland, wetland, and polar. If large images are not available, hang up written signs with the habitat names and have students consult the images in the student book.

TEACHER SAY: **We have learned a lot about different habitats. Let's see if we can use what we know to determine where an animal might live. We will start by considering what we discovered about weather.**

- **Were the habitats the same temperature?**
- **Which habitat always had cold/snowy weather?**
- **Which habitat had hot weather?**
- **What habitat had rainy weather?**
- **Which habitat had hot and co ld weather at different times of year?**

TEACHER DO: Pause after each question to allow students to answer. Reference the images of the habitats to remind students of the previous day's reading.

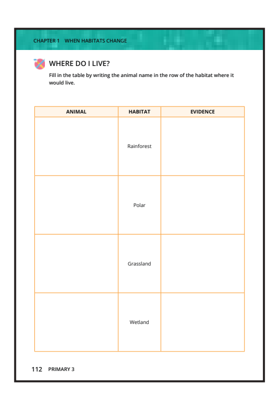


STUDENTS DO: Respond to questions about the weather in the different habitats.

TEACHER SAY: **How do you think the weather might affect which animals can live in a certain habitat? Share your ideas with your Shoulder Partner.**



STUDENTS DO: Share ideas.


CHAPTER 1 WHEN HABITATS CHANGE

WHERE DO I LIVE?

Fill in the table by writing the animal name in the row of the habitat where it would live.

ANIMAL	HABITAT	EVIDENCE
	Rainforest	
	Polar	
	Grassland	
	Wetland	

112 PRIMARY 3

TEACHER SAY: **The temperature and type of weather you can find is different in each habitat and therefore supports different living things. Rainforests are warm and wet but grasslands can be warm and dry. Polar habitats are always cold and icy. The weather in these different habitats support different types of life. Our job today will be to determine where an animal might live by listening to a description of the animal that includes the best weather conditions for its survival. Open your book to the page Where Do I Live?.**



READ ALOUD: **Fill in the table by writing the animal name in the row of the habitat where it would live.**

TEACHER SAY: **We will work together in groups of four using a strategy called Numbered Heads. Each person will have a number. All four group members will work together to determine an answer. Remember to share evidence to support each answer. Then, I will call a number. All students who are assigned that number will stand up to share their group's answer.**

TEACHER DO: Put students into groups of four and assign each student a number from 1 to 4.

TEACHER SAY: **Listen carefully to this description: I am covered in thick white fur to stay warm. I eat fish and hunt for seals on the ice. Where do I live?**





STUDENTS DO: Discuss answer (polar habitat) with small group and explain evidence that supports the choice. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

TEACHER SAY: Number 4 stand up.

TEACHER DO: Have several students share their group's answer.

TEACHER SAY: Yes. The animal I described lives in a polar habitat. The animal is called a polar bear. Write POLAR BEAR next to polar habitat on the table.

TEACHER DO: Write POLAR BEAR at the front of the room for students to copy if necessary.



STUDENTS DO: Record the animal in the correct habitat's row in the table.

TEACHER SAY: What evidence do you have that the animal is a polar bear and lives in a polar habitat?



STUDENTS DO: Respond with evidence. Possible answers include hunting for seals on ice or the animals thick white fur.

TEACHER DO: If needed, repeat the description given so that students can identify specific evidence to list in the final column. Repeat these steps for each of the following living things. Call on different numbers from the group to share answers for each animal. Students should use evidence from the description to support each answer.

TEACHER SAY: Listen carefully again:

- **I live where it is very hot and I cannot survive in cold weather. I hunt for food on the dry ground and high up in trees. Where do I live? (rainforest/boa constrictor/snake)**
- **I live both in water and on land. I eat mostly bugs and worms. I lay eggs in water. Where do I live? (wetland/salamander)**
- **I need to live where it is warm because my body does not adjust well in cold weather. I eat leaves that I reach with my long neck. I have long legs and can run quickly through open areas. Where do I live? (grassland/giraffe)**



STUDENTS DO: Discuss answers in small groups and complete the table in their student books.

TEACHER DO: Allow extra time for students to take turns creating and sharing their own animal descriptions for small groups to guess which habitat is the best fit. Students may include familiar local habitats or habitats previously studied, such as deserts and aquatic habitats like lakes, rivers, and seas.

TEACHER SAY: Now that you have analyzed some animals and which habitats are the best fit, let's return to the question we answered earlier: How do you think the weather might affect which animals can live in a certain habitat? Take turns sharing your ideas at your table.



STUDENTS DO: Share ideas.

TEACHER SAY: Let's add what we have discovered to our KWL Chart. Turn back to the page Know, Wonder, Learn. In the LEARN column, write one complete sentence that explains how weather affects which animals can live in a certain habitat. If you have extra time, add a second sentence that gives an example to support your first sentence.



STUDENTS DO: Add one or two complete sentences to the **KWL Chart**.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we discovered where different living organisms could live. Think about the four habitats we have observed. Can you think of one more living organism you know that lives in one of these habitats? Write its name in the correct habitat. Then turn and share what you wrote with your Shoulder Partner.



STUDENTS DO: Add a new animal to the table, then share with their **Shoulder Partner**.

Lesson 4 Overview

LEARNING OUTCOMES
Students will: • Explain the purpose of maps and globes. • Identify the differences between a map and a globe. • Locate bodies of water and continents on a map and a globe. • Apply map tools (cardinal directions, key) to locate habitats on a map.

PREPARATION
If possible, bring in a collection of different maps for students to observe. Have at least one globe to share with the class. If possible, have several globes to allow for more students to observe.

KEY VOCABULARY
• Cardinal directions • Continent • Equator • Globe • Hemisphere • Poles

MATERIALS
• Variety of maps • Globe • Student books • Pencils

LIFE SKILLS
Learn to Know
Critical Thinking: • Identify subject/topic-related information.



Learn (90 minutes)

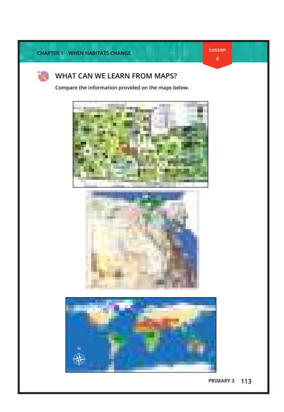
Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our last lesson, we applied what we knew about habitats to help us identify where an animal might live. Turn and share with your Shoulder Partner one habitat we discussed and a living organism we can find in that habitat.

 **STUDENTS DO:** Review learning with their **Shoulder Partner**.

TEACHER SAY: We have learned about many habitats that are not in here in Egypt. Some are very, very far away. In previous years we have learned how to read maps of our local community, our country, and a few neighboring countries. Today we will learn how to use maps and globes to find out where these habitats are located around our WORLD.



2. TEACHER DO: Hand out student books.

TEACHER SAY: Let's start by seeing what we remember about how to gather information from maps. Open your books to the page What Can We Learn From Maps? What do you see on this page?

 **STUDENTS DO:** Share observations.

TEACHER SAY: Yes, this is a set of maps. Remember that a map is a flat model of a place. To start, let's observe the maps on this page more closely. Look at the maps for a few moments quietly on your own. Think about what is the same and different on multiple maps. Also consider what information the map provides.

TEACHER DO: Provide **Think Time** for students before continuing.

TEACHER SAY: **Let's share our observations in groups. You will use a Talking Stick to take turns sharing similarities and differences. For example, I notice that.... [Share an observation, such as: These two maps have two big blue areas, but this map does not.]**

TEACHER DO: Put students into groups of four or five to facilitate sharing. Listen for map features students notice, such as bodies of water, land, locations, and so on.

 **STUDENTS DO:** Using **Talking Sticks**, share observations in small groups.

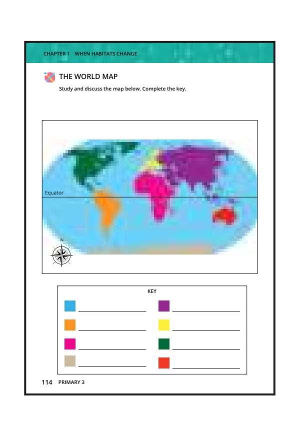
TEACHER SAY: **Thank you for sharing your observations. These are all example of maps. Even though they look different, each one represents a place.**

TEACHER DO: Facilitate a conversation about each map, having students identify the area it represents. Emphasize that although each map takes up the same space on the page, the areas they depict are vastly different in size. Extend the conversation to include the function of each map, or how and when each map could be helpful.

 **STUDENTS DO:** Discuss the maps provided.

TEACHER SAY: **The last map on the page is different than the others in the amount of space it shows. Can anyone tell me what this map shows?**

 **STUDENTS DO:** Share ideas (the world).



3. TEACHER DO: If possible, hang a map of the world at the front of the room.

TEACHER SAY: **Turn to the next page in your book, The World Map. This is a map of our world. On the map you can see land and water. Can anyone guess how you can tell what is land and what is water on the map?**

 **STUDENTS DO:** Share ideas.

TEACHER SAY: **Yes, the water on the map is blue. All of the other colors represent land. We can see oceans and very large lakes represented in blue. Who can come point to a body of water on the map?**

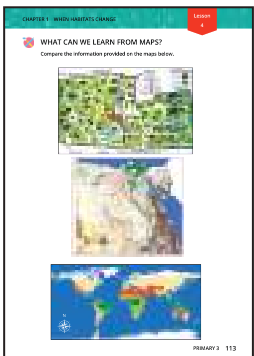
TEACHER DO: Use **Calling Sticks** to invite students to locate a body of water on the map.

TEACHER SAY: **Does anyone know what the different colors of land represent?**

 **STUDENTS DO:** Share ideas.

TEACHER SAY: **These large areas of land in different colors are called continents. A CONTINENT is a very large, continuous area of land that includes many countries. We live on the continent of Africa. (Point to Africa on the map.) Who can come identify another continent on the map?**

TEACHER DO: Invite students to come point to continents on the map. Allow students to also offer the name of the continent if they know it. Otherwise, name each continent as it is located by students. Once you have identified each continent, name them again one at a time, asking other students to come up to point as you say each name. Have students point to the maps in the student book for individual practice as well.

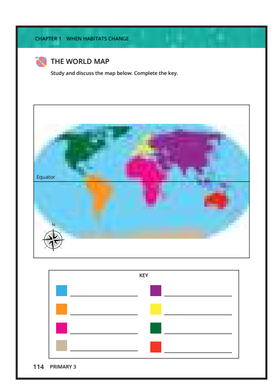


TEACHER SAY: **We just learned a lot of information about this map. How do you think we can remember which continent is which color?**

TEACHER DO: Provide **Think Time** before continuing.

TEACHER SAY: **Maps have a tool called a key. A key can tell you what colors, pictures, or shapes represent on a map. Turn back to the page What Can We Learn From Maps? for a moment. With your Shoulder Partner, look at the keys on the different maps. What information can you learn?**

STUDENTS DO: Observe and discuss keys with their **Shoulder Partner**.



TEACHER SAY: **Now turn back again to The World Map. On this map, the blue represents bodies of water. Since they are all the same color blue, let's label the blue square in the key, WATER.**

STUDENTS DO: Label the blue square in the key "water."

TEACHER SAY: **I have a thinking question for you. On maps of Egypt, we have always located the Nile River as a main water feature. Why do you think the Nile is not represented on this map?**



STUDENTS DO: Share ideas.

TEACHER DO: Extend the conversation to consider the scale of what is represented on the map. Rivers, even large ones, are too small to be represented in blue.

TEACHER SAY: **Let's continue recording what we have learned by completing the map key. Let's review and record the continent names to help us remember them. A complete key will also help us use this map as a reference later if we need to remember the continent names.**

TEACHER DO: Review the continent names a third time, spelling each on the board so that students can record them next to the appropriate color in the map key.



STUDENTS DO: Complete the key.

4. TEACHER SAY: **Another feature on this map that you have seen before is a compass rose. Let's review what information this tells us. Maps show where things really are in the world. Here is Egypt. When you look at the body of water that is above Egypt on the map, you are looking to the NORTH of Egypt. Who can come point to an area that is south of Egypt?**



STUDENTS DO: Identify the direction of south on the world map.

TEACHER DO: Ask students to identify areas east and west of Egypt on the map as well.

TEACHER SAY: **Repeat the directions with me: north, south, east, west. I will point to a location on the map. Let's call out the direction I am pointing.**

TEACHER DO: Point to areas north, south, east and west of Egypt.



STUDENTS DO: Call out cardinal directions in response to where the teacher points.

TEACHER SAY: **This line through the middle of the map is called the equator. There is not really a visible line on Earth, but we use this line on maps as a reference point. It runs directly through the middle of the world and divides the world into the northern and southern hemisphere. The farthest north from the equator is called the north pole and the farthest south is called the south pole.**

TEACHER DO: Point on the map as you introduce the equator and poles, and have students point on the maps in the student book as well. Glance around the room to confirm students find the right areas. Have students also check to make sure they are pointing to the same thing as their **Shoulder Partner**.

TEACHER SAY: **When we look at a map of the world on a flat piece of paper like this, it looks like it is in the shape of a rectangle. Who can name the geometric shape that describes the actual form of Earth?**



STUDENTS DO: Share ideas (sphere).

TEACHER SAY: **Since the world is shaped like a sphere, another tool we can use to learn about where locations are is a globe.**

TEACHER DO: Show a globe to the class. If possible, have multiple globes to display at different tables. Provide time for students to observe the globe, looking for similarities and differences between a globe and a map.

STUDENTS DO: Share similarities and differences observed between a map and a globe.

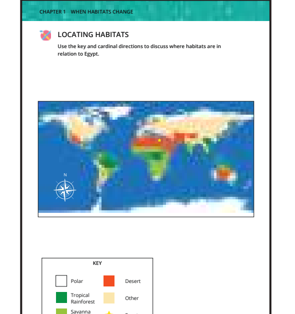
TEACHER SAY: A GLOBE is a three-dimensional model of our world. On a globe you can see the same bodies of water and continents that you can see on a world map. One difference is that a map is flat and two-dimensional, while a globe is round and three-dimensional.

TEACHER DO: Write the following list of features on the board or chart paper that all students can see: lake, ocean, Africa, Egypt, Antarctica, South America, North Pole, equator, island.

Note to Teacher: Clarify what a lake and island are if students are not familiar.

TEACHER SAY: Explore either a world map or a globe to locate each of the features on this list. Be ready to share with the class where you found each feature on the map or globe at the front of our room. Make sure you use the key on the map to help you.

TEACHER DO: Put students into groups based on the number of maps and globes you have for students to explore. Provide enough time for students to locate features on the map or globe. If time allows, switch the map and globe groups so students have time to observe both.


CHAPTER 1 WHEN HABITATS CHANGE

LOCATING HABITATS

Use the key and cardinal directions to discuss where habitats are in relation to Egypt.

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5. TEACHER SAY: Now that we have a basic understanding of world maps and globes, let's use what we know to find where different habitats are around the world. Turn to the next page in your book, Locating Habitats. We can see a world map. What do you notice about this map?



STUDENTS DO: Identify the variety of colors on the map.

TEACHER SAY: Yes, this world map also has many colors, but it is divided differently than our map of the continents. Where should we look to determine what each color represents?



STUDENTS DO: Identify the key as a tool to interpret colors on the map.

TEACHER SAY: Well done remembering common map features. The key will help us understand what information this map is showing us. Look at the key. I will use Calling Sticks to have students share what information they can interpret from the key.

TEACHER DO: Call on students to identify how each color represents a different habitat and that the star represents Egypt on the map.



READ ALOUD: Use the key and cardinal directions to discuss where habitats are in relation to Egypt.

TEACHER DO: Put students into groups of four or five and use **Talking Sticks** to facilitate a discussion about where habitats are located in the world. Before beginning, **Model** sentences for the discussion. **Model** how to combine cardinal directions such as "northwest" or "southeast," to give more detailed direction of where a habitat is located.

Note to Teacher: Notice that the habitats shown on the map are not exactly the same as introduced in the previous lesson. Provide students with the information that weather tends to be hot near the equator and colder near the poles. With this information, prompt students to reason that tundra is similar to polar habitats (and that polar habitats exist near the poles), and that rainforests are typically found in tropical habitats.





STUDENTS DO: Discuss locations of habitats by applying a key and cardinal directions. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: For our closing today, let's discuss a thinking question. One type of habitat not directly represented on this map is wetland. Where do you think wetland habitats might be located around the world, and why are they not given a specific color? Discuss your ideas with your Shoulder Partner.



STUDENTS DO: Share ideas with their **Shoulder Partner**.

Lesson 5 Overview

LEARNING OUTCOMES

Students will:
- Analyze interactions between living and non-living parts in a habitat.
- Use evidence to explain why an animal could or could not survive in a habitat.

PREPARATION

Collect a set of books, articles, or online resources on the following topics: ocean habitats, ocean animals, and a variety of animals that would NOT be found in an ocean habitat.

KEY VOCABULARY

- Caption
- Interact
- Subheading
- Survive

MATERIALS

- Student books
- Pencils
- Crayons or highlighters (if available)
- Research materials (see Preparation)

LIFE SKILLS

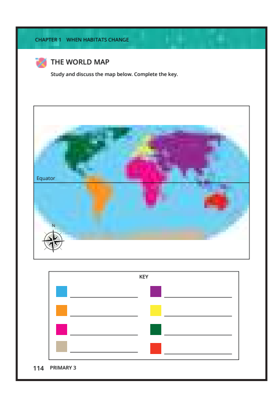
Learn to Know

Critical Thinking:
- Identify subject/topic-related information.



Learn (90 minutes)

Directions



1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER DO: Hand out student books and prompt students to open to The World Map. Then guide students to keep a finger in that page, and turn to the page Where Might a Macaw Live?

TEACHER SAY: **In a previous lesson, we identified habitats where animals might live based on their needs. In our last lesson, we identified where some habitats are found in our world. Let's put this knowledge together. Look at this animal. It is called a macaw. They live where it is warm. These birds make their homes in trees. They eat nuts, fruits, and insects. Sometimes they even eat damp soil. Point on your world map where you think these birds might live. Turn and share your answer with your Shoulder Partner.**



STUDENTS DO: Identify the rainforest habitat in tropical regions on the map and share with their **Shoulder Partner**.

TEACHER SAY: **I like how I heard you combining pieces of what you know to make a decision. Today we will be learning about a new part of how habitats work. We have previously categorized living organisms and non-living things in habitats. Today we will learn how different parts of a habitat INTERACT. Interact means to act on one another. For example, you can interact with your student book. You write in your book. You pick up your book, and you put away your book. Let's act out some simple interactions. If I tell you to INTERACT with your table, what could you do?**



STUDENTS DO: Share ideas.

TEACHER SAY: **Okay, interact with your table.**



STUDENTS DO: Interact with their tables.

TEACHER SAY: **Stop. Now, interact with your neighbor.**



STUDENTS DO: Interact with their neighbors.

TEACHER SAY: **Stop. Who can share what interaction they had with their neighbor?**



STUDENTS DO: Share types of interactions.

2. TEACHER SAY: **Now that we have an understanding of what it means to INTERACT, we are ready to explore how parts of a habitat interact. First, I am going to re-read the description I gave of the macaw. When you hear an INTERACTION, raise your hand.**

TEACHER DO: As you re-read the description, pause when you see a couple of students' hands raised. Ask them to identify the interaction described, then ask them if the interaction is between two living organisms or a living organism and a non-living thing. Then continue reading until hands are raised again.

TEACHER SAY: **This bird is called a macaw. They live where it is warm. These birds make their homes in trees. They eat nuts, fruits, and insects. Sometimes they even eat damp soil.**

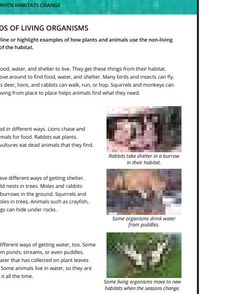


STUDENTS DO: Raise hands to identify interactions in the oral description.

TEACHER SAY: **Thank you for being such good listeners. In this description the macaw, a living organism, interacted with two non-living things: the weather and soil. What are some other non-living parts of a habitat that we have identified?**



STUDENTS DO: Name non-living parts of a habitat (weather, temperature, sunlight, soil, rocks, water, space, and so on).



CHAPTER 1 WHEN HABITATS CHANGE

NEEDS OF LIVING ORGANISMS

Underline or highlight examples of how plants and animals use the non-living parts of the habitat.

Animals need food, water, and shelter to live. They get these things from their habitat. Animals can move around to find food, water, and shelter. Many birds and insects can fly. Animals such as deer, lions, and rabbits can walk, run, or hop. Squirrels and monkeys can climb trees. Moving from place to place helps animals find what they need.

FOOD
Animals get food in different ways. Lions chase and catch other animals for food. Rabbits eat plants. Raccoons and vultures eat dead animals that they find.

Rabbits take shelter in a burrow in their habitat.

SHELTER
Animals also have different ways of getting shelter. Some birds build nests in trees. Moles and rabbits make holes or burrows in the ground. Squirrels and owls can use holes in trees. Animals such as crayfish, turtles, and frogs can hide under rocks.

Some organisms drink water from puddles.

WATER
Animals have different ways of getting water, too. Some drink water from ponds, streams, or even puddles. Others drink water that has collected on plant leaves after a rainfall. Some animals live in water, so they are surrounded by it all the time.

Some living organisms move to new habitats when the seasons change.

When water, food, or shelter is hard to find, some animals move to other habitats. In Africa, zebras and elephants can walk many miles to look for water. Monarch butterflies fly south in the winter. They move to where the weather is warmer and there is more food.

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TEACHER SAY: **The non-living parts of a habitat are important for the living organisms of a habitat. Plants and animals can use non-living things to find food and for safety and protection. Let's learn more about interactions by reading an article. On the page Needs of Living Organisms, you will find an informational text that describes even more interactions. Before we start reading, let's orient ourselves to the page. What do you notice about this reading that looks different from stories we usually read in our student book?**

TEACHER DO: Call on three or four students to share observations about the page. They should identify that the paragraphs are broken up, some paragraphs have subheadings, and the pictures have captions.

TEACHER SAY: **Yes, one thing you can see are words with bold print. Point to an example of that on your page. This is called a SUBHEADING. These words tell you what you are about to read about. I see the word food. This tells me that the paragraph below the word will teach me information about food as a need of living things. Who can find another subheading?**



STUDENTS DO: Identify SHELTER and WATER as other subheadings.

TEACHER SAY: **I notice a connection between the subheadings and the first sentence of the article. Who can find the connection I see?**



STUDENTS DO: Share ideas (each subheading is one of the three needs listed in the first sentence).

TEACHER SAY: **You are very observant. Each of the middle paragraphs gives us details about one of the needs listed in the first sentence. Now, point to a picture. The sentence below the picture is a CAPTION. Captions give us information about what you can see in the picture. Turn to your Shoulder Partner and discuss how the caption under the first picture focuses your attention on an important interaction.**



STUDENTS DO: Turn and talk with their **Shoulder Partner**.

TEACHER SAY: **These text features—such as subheadings, images, and captions—in a non-fiction text can help us find important information easily. Now that we are familiar with the format of the article, let's read the directions above it.**



READ ALOUD: Underline or highlight examples of how plants and animals use the non-living parts of the habitat.

TEACHER SAY: Notice that this time, we are only looking for interactions between living organisms and non-living things. That means we will not highlight interactions between two living organisms.

Note to Teacher: The following work can be done individually, in partners, or read together as a whole class.

TEACHER DO: Read the first paragraph and image caption together. Identify how the rabbits used the dirt and ground to create a safe home. **Model** how to highlight this information.

TEACHER SAY: Now, continue reading the article, highlighting evidence of animals using non-living parts of the habitat.



STUDENTS DO: Read the article, locating and highlighting evidence of animals using non-living parts of a habitat.

TEACHER DO: After students have completed reading and highlighting, use **Calling Sticks** to have students share the examples they found of animals using non-living parts. Ask students to identify which section the information is in (under which subheading) so that other students can easily locate the same information. Chart student answers at the front of the room. Create a **T-Chart**, with one side labeled "Non-living" and the next side stating "Use/interaction."

3. TEACHER SAY: Thank you for identifying so many interactions between living organisms and non-living things in a habitat. Our world is a fascinating system of interactions. Living organisms meet many of their needs by using non-living things. Because different living organisms have different needs, not every habitat is suitable for every organism. We have read about a variety of habitats we can find in our world. Let's analyze one habitat more deeply to determine how it is able to meet the needs of an organism.

Note to Teacher: Have books and online resources available for students to read about ocean habitats and various animals (animals that can live in an ocean habitat and animals that might not survive well).

TEACHER SAY: We live near the Red Sea, which is an ocean habitat. Let's start by working together to describe parts of the ocean habitat. We can list plants, animals, and non-living parts of the habitat.


CHAPTER 1 WHEN HABITATS CHANGE

IS THIS THE BEST HABITAT?

Choose one resource on ocean habitats to read. Write about one animal that would survive well in the habitat and another animal that would not survive well. Use evidence from your reading to support your answer.

__________ can live in an ocean habitat.

How does the ocean meet its needs?

- __________
- __________
- __________

__________ cannot live in an ocean habitat.

What needs are not met?

- __________
- __________
- __________

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TEACHER DO: Hang up a three-column chart (plants, animals and non-living things) at the front of the room to record student answers. Provide **Think Time** for students to consider what they know about an ocean habitat, then use **Calling Sticks** to have students help complete the chart.

TEACHER SAY: Thank you for sharing what you know. Now, with a partner, you will read more about ocean habitats and animals that could live in this habitat. Open your books to the page Is This the Best Habitat?.



READ ALOUD: Choose one resource on ocean habitats to read. Write about one animal that would survive well in the habitat and another animal that would not survive well. Use evidence from your reading to support your answer.



TEACHER DO: Put students into small groups to conduct research. This is an opportunity for students to practice the Life Skill: Critical Thinking.

TEACHER SAY: Work together to explain why one animal could survive well in an ocean habitat and why another animal would not survive. Be sure you are able to use evidence from the resources to explain your answers.

Note to Teacher: If necessary for your class, go through the student book page together, describing examples of what could be written in each box.



STUDENTS DO: Collaborate to complete research on an ocean habitat and find evidence to explain why one animal would survive and another would not.

4. TEACHER SAY: Now that you have completed your research in groups, we can share what we learned with others. We will use the strategy One Stay, One Stray to share. One person in each group will stay at their seat and be ready to share what their group wrote. The rest of the group will visit other groups' work. Please select one person in your group to be the communicator who stays put.

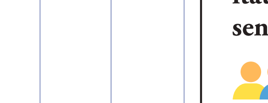
TEACHER DO: Facilitate the **One Stay, One Stray** strategy for groups to share what they learned.



STUDENTS DO: Share their group's answers using evidence from the reading and move around the room listening to other groups' work.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Now that you have considered interactions in many habitats and analyzed an ocean habitat in detail, let's summarize what we have learned for our KWL Chart. Turn back to the page Know, Wonder, Learn. In the LEARN column, write one complete sentence that explains two major reasons why living organisms interact with non-living things in their habitat. If you have extra time, add a second sentence that gives an example to support your first sentence.



STUDENTS DO: Add one or two complete sentences to the **KWL Chart**.

Lesson 6 Overview

LEARNING OUTCOMES

Students will:

- Identify environmental changes in various habitats.
- Explain the impact of environmental changes on living things.

PREPARATION

Create a completed sample foldable.

KEY VOCABULARY

- Cause
- Effect

MATERIALS

- Student books
- Pencils
- Bell (or other sound to use as a signal)
- Scissors
- Blank sheet of paper per student

LIFE SKILLS

Learn to Work	Learn to Be
Collaboration: • Respect for other opinions.	Communication: • Reading, writing, non-verbal communication skills.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In our last lesson, we talked about how living organisms and non-living things interact in the environment. Let's remember together: What are some non-living things in the environment?**



TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class. This is an opportunity for students to practice the Life Skill: Communication.

 STUDENTS DO: Identify non-living things in the environment such as air, water, rocks, soil, buildings, and so on.

TEACHER SAY: **Earlier, you read a story about a zookeeper's job. How do you think a zoo-keeper uses non-living things to create a comfortable habitat for its animals?**

 STUDENTS DO: Share ideas.

2. TEACHER SAY: **You are learning so much about habitats. So far, we have been learning about the main characteristics of different habitats. We have been learning general facts, such as, "most rainforests are warm" or "grasslands are often hot and dry." Let's think for a moment. Do you think environments or habitats always stay the same? Is a rainforest always warm, day after day and year after year?**

TEACHER DO: Use Calling Sticks to select several students to respond.

 STUDENTS DO: Share ideas.

TEACHER SAY: **What are some things that might change in an environment?**

TEACHER DO: Use Calling Sticks to select several students to respond.



STUDENTS DO: Share ideas.

TEACHER SAY: Listen carefully to my next question: What are some things that might CHANGE an environment?





STUDENTS DO: Share ideas, such as people, animals, changing weather, a fire. (This open-ended question is an opportunity for students to practice the Life Skill: Collaboration by respecting all answers.)

TEACHER DO: Prompt students to give examples as they answer, such as, “people might cut down trees in a forest” or “a fire might burn down a forest.” Provide other examples that students might not think of for each category as well, such as:

- People pollute a river
- Plant or tree roots break down rocks
- Floods wash away sand dunes
- Droughts prevent plants from growing

TEACHER SAY: Living organisms and non-living things can both change an environment either temporarily or long term. People, animals, plants, weather, and events like drought, fire, or floods can all cause a change in an environment. Let’s pause for a moment to learn about an important concept. The concept is called cause and effect. I think you probably already understand this concept even if you do not know the words. To find out, let me tell you a seven-word story: I pinched my sister and she cried. What is the EFFECT in this story?



STUDENTS DO: Share ideas.

TEACHER SAY: Very good, the effect is that my sister is crying. What is the CAUSE?



STUDENTS DO: Share ideas.

TEACHER SAY: Yes, the cause is that I pinched her. A CAUSE is something that creates a change. The EFFECT is the change we observe, or what happens as a result of the cause. Here is another example: A woodpecker pecks a hole in a tree. What is the cause?

TEACHER DO: Use **Calling Sticks** to select a student to respond.



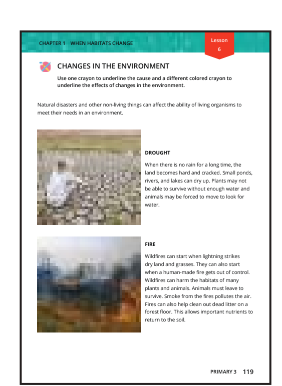
STUDENTS DO: Share ideas.

TEACHER SAY: Correct. The cause is the woodpecker pecking. What is the effect?

TEACHER DO: Use **Calling Sticks** to select a student to respond.



STUDENTS DO: Share ideas.



CHAPTER 1 WHEN HABITATS CHANGE — Lesson 6

CHANGES IN THE ENVIRONMENT

Use one crayon to underline the cause and a different colored crayon to underline the effects of changes in the environment.

Natural disasters and other non-living things can affect the ability of living organisms to meet their needs in an environment.

DROUGHT

When there is no rain for a long time, the land becomes hard and cracked. Small ponds, rivers, and lakes can dry up. Plants may not be able to survive without enough water and animals may be forced to move to look for water.

FIRE

Wildfires can start when lightning strikes dry land and grasses. They can also start when a human-made fire gets out of control. Wildfires can harm the habitats of many plants and animals. Animals must leave to survive. Smoke from the fires pollutes the air. Fires can also help clean out dead litter on a forest floor. This allows important nutrients to return to the soil.

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3. TEACHER SAY: Yes, the effect is there is a hole in the tree. When an environment changes (an effect), it is important to understand the cause. Let’s read some examples of changes in the environment and think about what caused the change and the effect it had on the environment. Open your student books to the page Changes in the Environment.



READ ALOUD: Use one crayon to underline the cause and a different colored crayon to underline the effects of changes in the environment.

TEACHER SAY: What are some reading skills that will help you on this page?

TEACHER DO: Use **Calling Sticks** to select several students to respond.



STUDENTS DO: Share ideas, such as look at the pictures for information, read the subheadings, think about what you know.

Note to Teacher: The information on the student book page contains vocabulary that may be unfamiliar to students. You may wish to read the page to your students and clarify each sentence to ensure comprehension.

TEACHER SAY: Very good. The pictures and subheadings can help you complete this page. Think about what you already know and complete the page.

 **STUDENTS DO:** Read passages and identify causes and effects of changes in the environment.

4. TEACHER SAY: We just read about four different natural disasters that can cause changes in the environment. To help us remember the information we just read, we are going to create a Foldable. This is a strategy that will help us take notes when we are trying to learn a lot of new information. Watch me first, and then you will make your own Foldable.

TEACHER DO: Demonstrate how to create a simple **Foldable**. Fold a piece of paper in half vertically. Then fold the top to the bottom and repeat one more time. Unfold the top to bottom folds so your paper is in half vertically, or portrait style. Cut the paper along the folds of the top half to create flaps. Show students the finished product and then repeat each step aloud as students create their own **Foldable**.

 **STUDENTS DO:** Create **Foldables**.

Note to Teacher: As you demonstrate the folds, use vocabulary from math, such as half and quarter.

TEACHER DO: Circulate around the room, assisting students as needed. Encourage students to help each other.

TEACHER SAY: Now that we have made our Foldable, we will use the page from our student book to add information to it. We will complete the first flap together. On top of each flap we will write one of the events that are listed as subheadings in the article. For example, write the word DROUGHT on the first flap.

 **STUDENTS DO:** Write DROUGHT on first flap.

TEACHER SAY: Look at the cause you underlined for drought. Open the flap you labeled DROUGHT. On the inside left, write or draw the cause of droughts.

 **STUDENTS DO:** Write or draw the cause of droughts.

TEACHER SAY: Now look at the effect you underlined for drought. On the inside right, write or draw the effect of droughts.

 **STUDENTS DO:** Write or draw the effects of droughts.

TEACHER SAY: Well done. You can draw an arrow across the seam in the paper to help you remember the relationship between a cause and an effect. When you are done, complete the rest of the flaps.



 **STUDENTS DO:** Complete the rest of the flaps. (This is an opportunity for students to practice the Life Skill: Communication.)

5. TEACHER SAY: Good work. We can make up some fun Hand Motions to help us remember the different ways the environment can change. In your rows, make up some hand motions that will help you remember these causes of change. For example, fire might look like this. [Make up a hand motion to represent fire.] When we come back together, each row will show us their hand signs.

 **STUDENTS DO:** Make up hand motions to represent each cause of change in the environment.

TEACHER DO: Circulate around the room, encouraging students. Use a bell, or other signal, to call the class back together after they have practiced the hand motions a few times.

Note to Teacher: Using hand signals and repetition promotes learning and helps retention.

TEACHER SAY: I see some very creative hand motions as I look around the room. When I call your row, please stand and show us your hand motions.



STUDENTS DO: Share hand motions, listen, and show respect to each group as they demonstrate.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Which of the changes we studied has the most harmful effect on the environment? What evidence makes you choose your answer?

TEACHER DO: Use **Calling Sticks** to select several students to answer.



STUDENTS DO: Share ideas.

TEACHER SAY: Tomorrow, we will see if you still remember the causes of changes in the environment, so keep practicing those hand motions.

Lesson 7 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Research how living things can benefit and harm a habitat. • Provide support for a statement using evidence.	• Benefit • Harm • Invasive • Overgraze	• Research resources (see Preparation) • Student books • Pencils

PREPARATION

Collect a set of research resources, including books, magazines, and/or internet resources on squirrels, beavers, snakefish, and freshwater crayfish for students to use in groups.

LIFE SKILLS

Learn to Know	Learn to Work
Critical Thinking: • Explain thinking processes.	Collaboration: • Respect for other opinions.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In our last lesson, we talked about ways the environment can change. Everyone stand and show me your hand motions.**

TEACHER DO: Call out each change, such as drought, fire, flood, and so on.

 STUDENTS DO: Stand and perform hand motions.

2. TEACHER SAY: **Imagine you are walking home from school today and find that someone has put a really tall and wide wall in your way. What would you do? How would you try to get home? Would you be in any danger? Share with your Shoulder Partner.**

 STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to select a few students to share ideas.

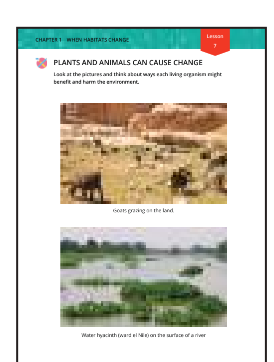
 STUDENTS DO: Share ideas when called.

TEACHER SAY: **You had some very creative ways to get around that wall and get home. That scenario might seem like a drastic and sudden change to your environment. Now, imagine a highway is built through a forest. This happens frequently, all over the world. What if a squirrel needs to cross the highway to get to a pond on the other side? What are some problems the squirrel might face trying to get to the pond? Would the squirrel be in danger?**

TEACHER DO: Use **Calling Sticks** to select a few students to share ideas.

 STUDENTS DO: Share ideas.

3. TEACHER SAY: **Sometimes living organisms create changes in the environment that can affect other living organisms. Open your student books to the page Plants and Animals Can Cause Change.**


CHAPTER 1 · WHEN HABITATS CHANGE Lesson 7

PLANTS AND ANIMALS CAN CAUSE CHANGE

Look at the pictures and think about ways each living organism might benefit and harm the environment.

Goats grazing on the land.

Water hyacinth (ward el Nile) on the surface of a river

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READ ALOUD: Look at these pictures and think about ways each living organism might benefit and harm the environment.

TEACHER DO: Before continuing, review the meaning of the words BENEFIT and HARM with students. After a few moments of sharing, provide students with the examples below to extend their thinking.

TEACHER SAY: Think on your own for a minute about the first picture, and then share your ideas with your Shoulder Partner.



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER SAY: A group of goats is called a herd. When goats or other animals eat grass, it is called grazing. Goat herds can eat too much grass or OVERGRAZE. This can cause changes in the land by removing the plants and grass that provide food and shelter for other living organisms. The ground can become hard and sandy without plant roots to break it up. Now consider the second picture and share your ideas with your Shoulder Partner.



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER SAY: The water hyacinth is a plant that is not originally from Egypt. People from other places brought it to Egypt long ago. It is called an INVASIVE plant. The water hyacinth uses a lot of the water in the Nile River. This plant also prevents sunlight and oxygen from reaching other plants that grow beneath the water.

Let's think about many ways that humans, plants, and animals can cause changes in the environment. Then we will share our ideas.

TEACHER DO: Give students a few minutes of **Think Time** to think about ways humans, animals, and plants can change the environment.



STUDENTS DO: Use **Think Time** to think about ways humans, animals, and plants can change the environment

4. TEACHER SAY: Now that you have some good ideas, we can have a Snowball Fight. Earlier, you identified the polar regions on a map and globe. In parts of the world where the climate is cold, children often pack snow into a ball shape and throw them at each other. We will use a piece of paper for our snowball. Write down one way a human, plant, or animal can change the environment on a half piece of paper.



STUDENTS DO: Write down ideas.

TEACHER SAY: Crumple up your paper like this. [Demonstrate for students.] Stand up, and when I say go, throw your snowball across the room.



STUDENTS DO: Crumple paper like a snowball and throw it across the room.

TEACHER SAY: Now, pick up a snowball close to you and straighten out the paper. We will go around the room and read what is written.

TEACHER DO: Call on students to share what is written on the snowball. Choose 10 students if time is short and ask for clarification or elaboration if needed.



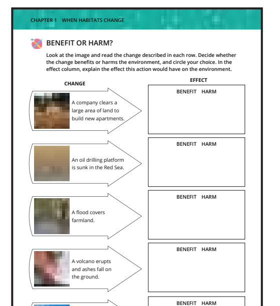
STUDENTS DO: Read aloud what is written on the snowball.

TEACHER SAY: Very good. We named many ways that humans, plants, and animals can change our environment. Some changes can be good and help the environment, like planting more trees helps clean the air. Some changes can hurt the environment, like polluting our rivers. Turn to your Shoulder Partner, read what is written on your paper snowball, and tell your partner if the change BENEFITS or HARMS the environment.



STUDENTS DO: Read aloud what is written on the snowball to **Shoulder Partner** and decide if it hurts or helps the environment. (This is an opportunity for students to practice the Life Skill: Collaboration.)

TEACHER DO: Use **Calling Sticks** to select a few students to share ideas.


CHAPTER 1 WHEN HABITATS CHANGE

BENEFIT OR HARM?

Look at the image and read the change described in each row. Decide whether the change benefits or harms the environment, and circle your choice. In the effect column, explain the effect this action would have on the environment.

CHANGE	EFFECT
A company clears a large area of land to build new apartments.	BENEFIT HARM
An oil drilling platform is sunk in the Red Sea.	BENEFIT HARM
A flood covers farmland.	BENEFIT HARM
A volcano erupts and ashes fall on the ground.	BENEFIT HARM
An oasis dries up from a drought.	BENEFIT HARM

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STUDENTS DO: Share ideas.

5. TEACHER SAY: Let's consider the same question for some other scenarios. Open your student books to the page Benefit or Harm?.



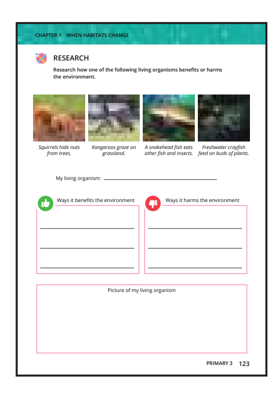
READ ALOUD: Look at the image and read the change described in each row. Decide whether the change benefits or harms the environment, and circle your choice. In the effect column, explain the effect this action would have on the environment.

Note to Teacher: To provide more support for struggling students, you may choose to complete the first row together as a class. Some changes may be both helpful and harmful. Once students have finished, lead a discussion to encourage students to use evidence to support their points of view.





STUDENTS DO: Record helpful or harmful changes and explain reasoning. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)


CHAPTER 1 WHEN HABITATS CHANGE

RESEARCH

Research how one of the following living organisms benefits or harms the environment.

Squirrels hide nuts from trees. *Kangaroos graze on grassland.* *A snakehead fish eats other fish and insects.* *Freshwater crayfish feed on buds of plants.*

My living organism: ______

Ways it benefits the environment

Ways it harms the environment

Picture of my living organism

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TEACHER SAY: Well done. We identified some changes that can both benefit and harm our environment. We know that when humans plant farm crops, it impacts the environment by eliminating natural plants in the area and forces some animals to relocate. Some crops also provide new habitats for living organisms. Fertilizers may help crops grow and keep pests away. However, fertilizer can run off into rivers and streams and pollute them. Let's do some research to find out how other animals can help and/or hurt the environment. Turn to the page Research.



READ ALOUD: Research how one of the following living organisms benefits or harms the environment.

TEACHER DO: Read through the list provided on the student book page.

Note to Teacher: The freshwater crayfish is an important Egyptian issue. The other issues described are common in many areas around the world. Allow students to select a plant or animal not on the list based on individual interest with your approval and available resources.

TEACHER DO: Provide resources for student research, such as books from the library, websites, and newspaper articles. If computers are available, you may find relevant websites and provide links tor students who need assistance searching on the internet.

Note to Teacher: If resources are limited, group students by organism and allow students to share resources and discuss their findings. This is a good opportunity to have students practice applying information and communication technology learning standards as they select appropriate applications and digital sources to use.



STUDENTS DO: Research how living organisms benefit and/or harm the environment.

TEACHER DO: Circulate around the room as students work to answer questions. Support students as needed.

TEACHER SAY: We can share our research by talking a Gallery Walk around the room.

TEACHER DO: Divide the class in half. Half of students will stay at their desks while the other half circulates around the room to look at research notes and ask students questions. Seated students should be able to explain their work to others. When finished, switch and repeat the process.



STUDENTS DO: Share research and defend using evidence.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we explored ways our environment can change. We researched how some living organisms can benefit and harm our ecosystem. What are some ways we can prevent harm to our environment? Share with your Shoulder Partner.

 **STUDENTS DO:** Share ideas about preventing harm to the environment.

Lesson 8 Overview

LEARNING OUTCOMES
Students will:
• Collect, analyze, and display data to demonstrate how changes in the environment may affect the survival of organisms in that environment.

PREPARATION
Prepare chart paper with a data table and graph outline. Prepare a data table for the data recorder to write on. The data table should include the round, number of goats at the start of each round, and the number of goats at the end of each round.

KEY VOCABULARY
• Environment
• Simulation

LIFE SKILLS
Learn to Know
Problem-Solving:
• Collect problem-related data.
Learn to Work
Decision-Making:
• Identify results and expected results.

MATERIALS
• World map
• Chart paper
• Markers
• Two or three strips of paper
• Clipboard
• Student books
• Pencils



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In our last lesson, we talked about ways organisms can help and/or hurt the environment. What are some ways we could stop a freshwater crayfish from eating the buds of crops? Share with your Shoulder Partner.**

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.



STUDENTS DO: Share ideas about ways to stop an organism from hurting the environment.

Note to Teacher: Ask students to consider if their solution would have any negative effects on the environment.

2. TEACHER SAY: **Sometimes, when we try to fix one problem, we create another one. It is important to consider harmful effects on the ecosystem when trying to control an organism. The cane toad, an animal that looks like a frog, but that eats a lot of different things including small rats, other reptiles and even small birds. The cane toad was brought from South America to the Philippines, Caribbean, and Japanese islands to control rats and other pests on farms.**

TEACHER DO: Show students the location of South America, the Philippines, the Caribbean, and the Japanese islands on a world map.

TEACHER SAY: **First, let's think about why the farmers wanted to use an animal instead of setting a trap or using other methods to get rid of the rats. Share your ideas with your Shoulder Partner.**



STUDENTS DO: Share ideas.

TEACHER SAY: Now, let's talk about the negative impacts of bringing a new organism into an environment.

TEACHER DO: Use **Calling Sticks** to select a few students to answer.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: You shared some interesting ideas. While the cane toads might seem like a safer alternative to using a trap or poison on the rats, the farmers now have an even bigger problem: too many cane toads. The skin of the cane toad can be deadly to some animals that try to eat it. The toads also reproduce very quickly and are very strong. They have even been spotted coming out of brush fires or hopping away after being run over. This means that a cane toad can cause other animals to die or leave the environment. That can lead to more cane toads than other living organisms in one area. Let's collect some data on the effects of changes to an environment over time.

3. TEACHER DO: If possible, take students outside to conduct this simulation experience. Other-wise, move desks and benches in the classroom so that you have a large open space. You will assign one student to be a data recorder and write down the findings from the class. If you haven't used roles such as this in the past, you may need to explain the importance of class jobs. Be sure that the data recorder has a pencil, data table, and something to write on, such as a clipboard or book.

TEACHER SAY: Remember in earlier lessons, we talked about basic needs that a habitat pro-vides. Who can remind us what they are?

TEACHER DO: Use **Calling Sticks** to select a few students to answer.

 **STUDENTS DO:** Share ideas, such as food, water, air, space, and shelter.

TEACHER SAY: We are going to play a simulation game to show how changes can affect the environment over time. A SIMULATION is a way to show how something happens. The data we collect is not real, but we can notice patterns and interpret cause and effect. When you play a computer game, like racing cars around a city, that is a type of simulation. Can you think of another example of a simulation?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Today we are going to observe how goats are affected by changes to the water, food, and shelter available in their environment. Would someone like to be the data recorder and record our data?

 **STUDENTS DO:** Raise hands to volunteer to be a data recorder.

TEACHER DO: Select a volunteer to record data.

TEACHER SAY: I will divide the class into two groups.

TEACHER DO: Split the class into two slightly unequal groups. The slightly larger group will be the parts of the ENVIRONMENT in the first round. The slightly smaller group will be the GOATS. Tell each group their title, and have the two groups stand in parallel lines facing each other.

TEACHER SAY: We will play several rounds of this game. Raise your hand if you are a goat.

 **STUDENTS DO:** Raise hands if they are goats.

TEACHER DO: Redirect any students that are confused.

TEACHER SAY: Data recorder, please record the total number of goats starting in round 1.

 **STUDENTS DO:** Data recorder counts and records the starting number of goats.

TEACHER SAY: Goats need water, food, and shelter. In each round we play, you will choose one of these to find. To communicate your choice, you will make a sign. If you want food, place

both hands over your stomach. If you want water, place both hands over your mouth. If you want shelter, or a place to rest, place your hands together over your head like this. Let's practice.

TEACHER DO: Model the signs for students. Call out a sign and have students demonstrate the correct sign.

 STUDENTS DO: When the teacher calls out a sign, such as food, respond by showing both hands over their stomachs.

TEACHER SAY: **Raise your hand if you are part of the environment.**

 STUDENTS DO: Raise hands if they are part of the environment.

TEACHER SAY: **The important parts of the environment are food, water, and shelter. In each round, you will get to choose which part you want to be. You may change each round if you want to change. The signs are the same as the goats. Let's practice.**

TEACHER DO: Redirect any students that are confused. Model the signs again for the new group of students. Call out a sign and have students demonstrate the correct sign.

 STUDENTS DO: When the teacher calls out a sign, such as food, respond by showing both hands over their stomachs.

TEACHER SAY: **Now, turn your backs to each other. Do not look at the other line.**

 STUDENTS DO: Stand in lines a few feet apart with backs to the other line.

TEACHER SAY: **Goats, decide if you want food, water, or shelter this round and make the sign in front of you so the other line cannot see it yet.**

 STUDENTS DO: Goats choose a need to fulfill and make the corresponding sign.

TEACHER SAY: **Parts of the environment cannot move from their line. Parts of the environment: Decide what part you want to be and make the sign.**

 STUDENTS DO: Parts of the environment choose what sign they want to be and make the sign.

TEACHER SAY: **When I say GO, turn around. Do not change your sign. Goats: Walk over to find one part of the environment that matches the sign you are making. If you find a match, take that student back to your starting line. If you do not find a match, come stand by me. Go.**

Note to Teacher: Students should walk quickly and not run.

TEACHER DO: Monitor students to check for understanding. Be sure students do not change their sign. When students match, they both go back to the starting line for the goats.

TEACHER SAY: **Well done. If you are part of the environment and a goat did not match you, please sit down for a moment.**

 STUDENTS DO: Parts of the environment who did not match sit.

TEACHER SAY: **Goats: If you found what you needed, you were able to reproduce and have another goat. Parts of the environment: If a goat matched your sign, you helped them survive and reproduce. Each of you are now a new goat. Data recorder, please record how many goats we have now.**



 STUDENTS DO: Data recorder involves students in counting out loud and records the number of goats at the end of round one. (This is an opportunity for the whole class to collaborate on practicing the Life Skill: Problem-Solving.)

TEACHER SAY: **Goats next to me, you did not find what you needed in the environment. What do you think happens to you?**

TEACHER DO: Call on a few volunteers with raised hands.



STUDENTS DO: Share ideas about what they think happens if a goat does not find a basic need in the environment.

TEACHER SAY: You are correct. If an organism does not find what it needs in the environment, it does not survive. You will now become part of the environment. If you are a goat who did not find a match, please go join the parts of the environment line.



STUDENTS DO: Students who did not match become part of the environment and join that line.

TEACHER SAY: What do you notice about the number of goats? Did the number increase or decrease? Show me a Thumbs Up for increase or thumbs down for decrease.



STUDENTS DO: Students should show a **Thumbs Up** to show that the number of goats increased.

TEACHER SAY: What do you notice about the parts of the environment? Did they increase or decrease? Show me your thumbs.



STUDENTS DO: Students should show a thumbs down to show that the parts of the environment decreased.

TEACHER SAY: Let's explore this some more. Now that you understand how this simulation works, let's do another round. Data recorder, please record the number of goats to start round two.



STUDENTS DO: Data recorder counts and records all the goats at the beginning of round two.

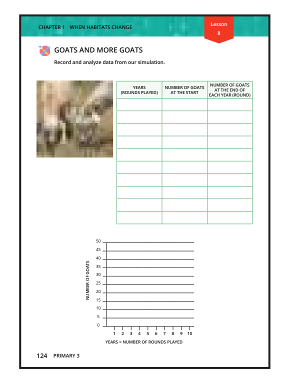
TEACHER SAY: Turn your backs to each other and select a sign. It can be a different sign from round one. Go.

Note to Teacher: Each round represents a year. You may choose to play 10 rounds to represent 10 years, or limit it to only five rounds, depending on the level of your students. For more advanced students, you may also ask one or two student goats to place a strip of paper in their back pocket. When they match, ask them to remove the strip of paper and tell them that the strip of paper represents pollution and both the goat and the part the environment are out of the game and do not participate because they are damaged by the pollution.

TEACHER DO: Continue to play rounds and have the data recorder record the number of goats at the start and end of each round. Take students back inside to discuss the data when finished.

TEACHER SAY: Let's analyze our data together.

Note to Teacher: This is a good opportunity to discuss the computational thinking concepts of pattern recognition and abstraction as students analyze the patterns in the graph. More advanced students might even develop an algorithm to predict the next 10 years.



4. TEACHER DO: Hand out student books.

TEACHER SAY: Open your student books to the page Goats and More Goats.



READ ALOUD: Record and analyze data from our simulation.

TEACHER SAY: As I read the data for each round from our data recorder, please record it on the data table in your student books.

TEACHER DO: Using the data from the data recorder, read aloud the year (round) and number of goats at the start and end of that round for students to copy in the table provided in the student book. Alternatively or in addition, you may record the data from the data recorder on large chart paper for students to copy.



STUDENTS DO: Record the data for each round.

TEACHER SAY: What are some things you notice about the data?

TEACHER DO: Use **Calling Sticks** to select several students to answer.



STUDENTS DO: Share insights about trends in the data. (This is an opportunity for students to practice the Life Skill: Decision-Making.)

TEACHER SAY: We can graph our data. Notice that the number of rounds we played represents years and are labeled on the horizontal axis. The number of goats at the end of each round is represented by the height of the bars.

TEACHER DO: Talk aloud about what you are doing as you create a bar graph on large chart paper based on the data collected. To reinforce previous math learning, consider having students create both a bar graph and a line plot (with one X representing at least two goats to save time and space). Ask students to reflect on which format is more useful for analyzing and communicating the data collected.

Note to Teacher: You may choose to call students up to draw and color in the bars for the graph. If other teachers at your school also complete this activity, you may choose to combine all the classes' data and graph it. More advanced students can compare the group graph to the class graph and analyze the results.

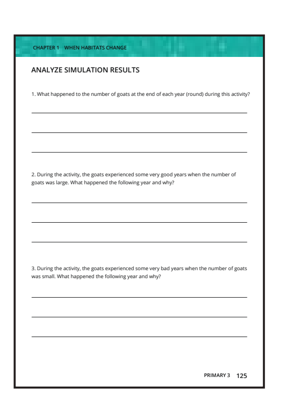
TEACHER SAY: What do you notice about our graph? Does this match what you noticed in the data table?

TEACHER DO: Use **Calling Sticks** to select several students to answer.



STUDENTS DO: Share insights about trends in the data.

Note to Teacher: Some possible answers include: a small herd of goats (seven students in a class of 28) find its habitat needs and expand rapidly in population over two to three rounds until the habitat does not contain sufficient food, water, and shelter for all the members of the herd. At that point, more goats do not survive and return as part of the habitat.



CHAPTER 1 · WHEN HABITATS CHANGE

ANALYZE SIMULATION RESULTS

1. What happened to the number of goats at the end of each year (round) during this activity?

2. During the activity, the goats experienced some very good years when the number of goats was large. What happened the following year and why?

3. During the activity, the goats experienced some very bad years when the number of goats was small. What happened the following year and why?

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TEACHER SAY: Well done. Let's complete the rest of the questions on the page Analyze Simulation Results. You may work with your Shoulder Partner to discuss your answers.



STUDENTS DO: Collaborate with **Shoulder Partner** and complete analysis questions in the student book.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: In this simulation, we saw that when there were too many goats, there were not enough resources, such as food, water, and shelter. Let's apply this knowledge to the environmental changes we have been studying. When the environment changes, what can organisms do to survive?

TEACHER DO: Use **Calling Sticks** to select several students to answer.



STUDENTS DO: Share ideas, such as adapt to the environment, move to a new environment, or die.

Lesson 9 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Create an informational brochure to teach others about the impact of changes to an environment.	• Brochure	• Blank white paper • Crayons, colored pencils, markers • Examples of brochures from museums, parks, or various attractions • Student books • Pencils

PREPARATION

Create a sample trifold brochure to share with students in advance.

LIFE SKILLS

Learn to Work	Learn to Live Together	Learn to Be
Collaboration: • Respect for other opinions.	Sharing: • Effective management and organization of tasks.	Communication: • Reading, writing, non-verbal communication skills.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In our last few lessons, we talked about how changes in the environment can affect the survival of living organisms. Turn to your Shoulder Partner and tell them what would happen in an environment if plants were not able to get sunshine.**

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.



STUDENTS DO: Share predictions and supporting evidence.

TEACHER DO: Hand out student books.

2. TEACHER SAY: **Today we are going to begin our Share Project. This project will be an opportunity to share with others much of what we have learned in this chapter. We will be creating an informational brochure about how environmental changes impact a habitat. Before we begin, let's review the expectations for our project. Open your student book to the page My Self-Assessment.**



READ ALOUD: **Read each statement. For each row, color the stars in the box that describes your effort.**



STUDENTS DO: Review rubric with partner.

TEACHER SAY: **Please raise your hand if you have any questions.**

TEACHER DO: Answer questions and clarify parts of the rubric as needed.

TEACHER SAY: **Has anyone ever seen or used an informational brochure? When I call on you, please share your experiences.**



STUDENTS DO: Share experiences.

TEACHER SAY: **An informational brochure tells the reader important information about a topic or place. Many brochures have pictures, maps, and other important information. Some brochures may try to persuade or convince the reader to do something after reading the information.**

TEACHER DO: Display examples of different brochures. Pass around the class if available.

TEACHER SAY: **We have been learning so much about how changes in the environment can affect living organisms. Let's help others understand what we have learned. We will also consider and share what we can all do to prevent or reverse harmful changes. We will create an informational brochure to share with each other and our families. We want everyone to know how they can help.**

Note to Teacher: If computers are available, allow students to select appropriate applications to create text and graphics for a brochure.

3. TEACHER SAY: **Open your student book to the page Brochure Planning. You will use this page to plan your brochure.**



READ ALOUD: **Complete the boxes to plan an informational brochure.**

TEACHER DO: Review the sections of the planning graphic organizer as needed depending on literacy levels of your students. Encourage students to choose a problem that has been introduced during the chapter. If individual students, or your class as a whole, are interested in identifying a local issue of environmental change that has not been previously discussed, assist them in articulating the problem and provide resources for further research. Circulate around the room to assist students as needed.

TEACHER SAY: **First, choose a problem—or an environmental change—you would like to see solved. Identify the cause of your problem and the effect it has on the environment. Remember to consult your notes from the rest of this chapter, and feel free to consult your Shoulder Partner or tablemates if you have questions. Finally, list some ways your audience can help and a few places where they could get more information. Consider listing books you have read or websites you found helpful.**



STUDENTS DO: Complete the page to plan an informational brochure.

TEACHER SAY: **Now that we have chosen a topic for our brochure and have planned its content, let's begin creating our brochures. Watch me first before you fold your own paper.**

TEACHER DO: Hold a blank piece of white paper in landscape orientation. Show students how to fold it into thirds.

Note to Teacher: This is a good time to review the math term THIRDS and what it means when a rectangle is divided into three equal parts.

TEACHER SAY: **Now it is your turn. Fold your paper into thirds.**



STUDENTS DO: Fold paper into thirds.

Note to Teacher: Many computer word processing programs have the ability to select a brochure as a template. If available, this is a good way to incorporate computer application skills. Emphasize how existing templates can help a user with time management and organization.



4. TEACHER DO: Circulate around the room and assist students as needed. Encourage students to help each other. This is an opportunity for students to practice the Life Skill: Collaboration. Next, show students an example of the titles on each page of the brochure and talk through how the content can be organized.

TEACHER SAY: We are going to set up different sections of our brochures. Look at my example, and label each part of your brochure with the following section titles.

- **On the front cover page, write what you want the audience to DO. For example: Stop Freshwater Crayfish from Eating Crops**
- **Inside left: Cause**
- **Inside middle: Effect**
- **Inside right: Ways to Help**
- **Back-left side: For More Information**
- **Back middle: No title, save for an illustration or image**



STUDENTS DO: Label the parts of the brochure.

TEACHER SAY: Using your planning page as a starting point, begin to add information to the panels of the brochure. Remember to use the writing skills we have been practicing, such as drafting a sentence on a separate piece of paper or saying it quietly to yourself before writing it down on the brochure.

TEACHER DO: Provide as much structure as needed for productivity, including cuing the class on which section they should work on next, providing time cues for when they should finish up a given section, and periodic breaks for sharing part of the product with their **Shoulder Partner**.



Sharing







STUDENTS DO: Complete the informational brochure. (This is an opportunity for students to practice the Life Skills: Communication and Sharing.)

TEACHER DO: If time allows, have students provide each other feedback on sentences and content, and provide another blank sheet of paper for students to create a revised, final version of the brochure. The process of planning, drafting, and revising reinforces academic perseverance, reduces anxiety over needing to "get it right the first time," and demonstrates the importance of high-quality work. This is an opportunity for students to practice the Life Skill: Collaboration.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we created a brochure to share with each other and our families. Who are some of the leaders in our community that could help solve the problems you identified?

TEACHER DO: Use **Calling Sticks** to selects a few students to share.



STUDENTS DO: Share ideas.

TEACHER SAY: Tomorrow we will share our brochures with each other and our families.

Lesson 10 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Describe ways to minimize impact and changes to living organisms in a local habitat. • Consider different points of view on a topic.	• Point of view	• Student books • Pencils • Hats cut out of construction paper in white, green, yellow, blue, and red

PREPARATION

Cut out paper hats in advance. Prepare a chart with the different colored hats and what they stand for:
Yellow: farmer or fisherman
White: owner of a construction company
Green: scientist
Blue: business owner
Red: government official or lawmaker

LIFE SKILLS

Learn to Know	Learn to Do
Critical Thinking: • Distinguish between different perspectives and points of view.	Collaboration: • Respect for other opinions.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **We have been working hard to understand how environments change and how these changes affect the organisms that live in them. Let's think about this topic in a new way for a moment. Imagine with me that you are in charge of a construction company. You need to clear some land for a new apartment building. What questions would you ask about how you might be impacting the environment? Share with your Shoulder Partner.**

 STUDENTS DO: Share ideas.

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.

TEACHER SAY: **In most of our conversations, we have been thinking about the organisms in the environment. As environmental scientists, we have been asking how the organisms are impacted by certain changes. By doing this, we have been focused on a specific POINT OF VIEW, that of a scientist interested in the wellbeing of plants and animals. A point of view is the way that someone thinks about something. How did the question you just considered shift this POINT OF VIEW? Whose point of view did I ask you to adopt?**

 STUDENTS DO: Share ideas.

TEACHER SAY: **When a big decision has to be made that affects people and places, it is important to consider the decision from multiple POINTS OF VIEW. Let's consider another example. Imagine someone gave our class a lot of money. How should we spend it?**

TEACHER DO: Use Calling Sticks to select a few students to respond. Then, extend the discussion to interpret their answers using the sample discussion below only as one example.


STUDENTS DO: Share ideas.

TEACHER SAY: Those are some good ideas. If five students in our class are interested in art, would it be fair to only spend the money on art supplies? What would be a fair way to decide?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.


STUDENTS DO: Share ideas.

2. TEACHER SAY: I like your ideas. It sounds like we need to listen to many different points of view in our class. Today, as you share your projects, we are going to think about the information from different points of view. I will hand out different colored hats to assign you a point of view to take. This is your Thinking Hat.





TEACHER DO: Hand out different colored hats. Each student gets one colored hat. Point to the chart with the meaning of each colored hat. This is an opportunity for students to practice the Life Skills: Respect for Diversity and Critical Thinking.

TEACHER SAY: Each colored hat represents a different point of view. As you do a Gallery Walk and look at the different brochures, think about the topic from the point of view on your hat. For example, if I am looking at a brochure about a snakefish eating too many other fish and I have a yellow hat, I am going to pretend that I am a fisherman. When I read about ways to help, I might ask the person if their suggestion would get in the way of my fishing. What if I had a green hat and was a scientist? What would I ask?

TEACHER DO: Use **Calling Sticks** to select a few students to respond for each colored hat.


STUDENTS DO: Share ideas.

TEACHER SAY: Very good. Remember to consider what is important to the position you were assigned. Listen for your assigned point of view in this list:

- **Our government leaders help make laws.**
- **Business owners have items to sell and need people to shop.**
- **Scientists study ways plants and animals interact.**
- **Construction owners need land and materials for building.**
- **Farmers and fisherman need land/water for crops and fishing.**

If someone suggests a way to help that will hurt your point of view, share that. For example, if the person says to hunt all the kangaroo and your business is to take tourists to see all the kangaroos, this will harm your business. Ask if there is another way to help that will not harm your point of view.

TEACHER DO: Divide the class in half and have them place their brochures on the desks. Half of the class will walk around and ask questions based on their point of view. The other half of the class will stay with their brochures to present the content and answer questions. After a period of time, allow the groups to switch places. Circulate around the room and assist students as needed.

TEACHER SAY: This half of the class will stay in their rows and display their brochures. This half of the class will take their colored hat as a reminder of their point of view and visit several different brochures. Remember to think like the position your colored hat represents and to ask good questions. When you hear the bell ring, we will switch places.


STUDENTS DO: Share brochures. Ask and answer questions.

TEACHER DO: Circulate around the room and listen to conversations. Prompt students as needed with questions related to the color of their hats. Give the signal to switch places when appropriate.

TEACHER SAY: I heard some very good conversations. How many of you realized that your ways to help might hurt someone else? Raise your hand.


STUDENTS DO: Raise hands to answer.

TEACHER SAY: As we stated earlier, when making big decisions that can affect others, it is very

important to get and respect multiple and different points of view to deepen your understanding of the topic.

TEACHER DO: Have students complete the page My Self-Assessment based on their work on the Share Project. Review the procedure or content of the rubric as needed.

3. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we shared our brochures and listened to different points of view. Please share your brochures with your families tonight. What point of view do you think they will have?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.

 **STUDENTS DO:** Share ideas.

Rubric Assessment (for teacher use)

Note to Teacher: If digital presentation tools are unavailable, skip the first row of Academic Content.

	Approaching Expectation (1)	Meeting Expectation (2)	Exceeding Expectation (3)
Academic Content	Provides examples of how living organisms can hurt or help the environment only with help from peers or the teacher. *Science-E.1.b*	Provides examples of how living organisms can hurt or help the environment and offers realistic solutions. *Science-E.1.b*	Provides multiple examples of how living organisms can hurt or help the environment and offers innovative solutions. *Science-E.1.b*
	Gathers relevant information about a given topic from multiple sources only with help from peers or the teacher. *Writing-D.3.a.*	Gathers relevant information about a given topic from multiple sources. *Writing-D.3.a.*	Gathers relevant information from multiple sources. Suggests resources to others so they may learn more about the topic. *Writing-D.3.a.*
	Explains the cause of an environmental problem and an effect only with help from peers or the teacher. *Reading-F.3.a.*	Explains the cause of an environmental problem and a related effect with clarity. *Reading-F.3.a.*	Explains the cause of an environmental problem and multiple related effects with clarity. *Reading-F.3.a.*
	Records data collected by the class on a line plot with accuracy only with help from peers or the teacher. *Math-D.4.a.*	Records data collected by the class on a line plot with accuracy. *Math-D.4.a.*	Collects data independently and records it on a line plot with accuracy. *Math-D.4.a.*
Quality of Performance	Creates a brochure that is not very neat or easy to read.	Creates a brochure that is neat and easy to read.	Creates a brochure that is exceptionally neat and visually appealing.
	Offers relevant evidence to support the explanation of how an organism can benefit and damage its environment only with help from peers or the teacher. *Science-E.1.d.*	Offers relevant evidence to support the explanation of how an organism can benefit and damage its environment. *Science-E.1.d.*	Offers unique or especially thoughtful evidence to support the explanation of how an organism can benefit and damage its environment. *Science-E.1.d.*
Life Skills	Follows agreed upon rules while completing assigned tasks with others only with the help of peers or the teacher. *Collaboration*	Follows agreed upon rules while completing assigned tasks with others. *Collaboration*	Follows agreed upon rules while completing assigned tasks with others. Helps organize peers and leads in this area. *Collaboration*
	Asks relevant questions that align with an assigned point of view only with help from peers or the teacher. *Critical Thinking*	Asks relevant questions that align with an assigned point of view. *Critical Thinking*	Asks relevant questions that are especially insightful and align with an assigned point of view. *Critical Thinking*

PRIMARY 3

Multidisciplinary

THE WORLD AROUND ME

TAKING CARE OF OUR WORLD

Chapter 2: Water, Water Everywhere

Chapter Overview

Water, Water Everywhere

COMPONENT	DESCRIPTION	LESSONS
Discover	Students discover ways they can conserve clean drinking water. Students make connections between states of water (solid, liquid, and gas) and the water cycle. Students explore how the water cycle impacts weather and distinguish between weather and climate.	3
Learn	Students learn how the water cycle can impact climate. Students learn how weather scientists study weather data to better understand a region's climate. Students analyze one region to understand how its location impacts its climate. Students analyze weather data to describe climate.	4
Share	Students collaborate to create a museum display to explain a habitat's climate and model the water cycle within that habitat.	3

Connection to Issues



Environment and Development: Our earth and environment need to be sustained. We can appreciate and care for the environment as a community.

Citizenship: We belong. We are part of our communities, country, and the human family. We all have rights and we all have responsibilities.

Life Skills Addressed



DIMENSION	DESCRIPTION
Learn to Know	**Critical Thinking:** • Identify subject/topic-related information. • Explain thinking processes.
Learn to Work	**Collaboration:** • Respect for other opinions. **Decision-Making:** • Identify results and expected results. **Productivity:** • Create a list of tasks to be accomplished, including setting alternative plans.
Learn to Live Together	**Sharing:** • Effective management and organization of tasks.
Learn to Be	**Self-Management:** • Review progress in realizing goals. **Communication:** • Reading, writing, non-verbal communication skills.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

D. Reading Skills: Fluency

1.c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

E. Reading Comprehension: Literature

1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
2.a. Determine the central message or lesson of a text and explain how it is conveyed through key details.
3.a. Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.
4.a. Answer questions about the logical connection between particular sentences and paragraphs in a text (such as comparison, cause/effect, sequence).

F. Reading Comprehension: Informational Text

1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
2.a. Identify the main idea of a text; recount the key details and explain how they support the main idea.

G. Language: Vocabulary Acquisition and Use

1.b. Use glossaries and beginning dictionaries to determine or clarify the meaning of words and phrases.

WRITING:

C. Informational and Opinion

1.a. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
1.b. Write opinion pieces, supporting a point of view with evidence and reasons.

D. Process, Production, and Research

1.a. Use graphic organizers to plan writing.
2.a. Use a variety of digital tools to produce and publish writing, independently and in collaboration with peers.
2.b. Participate in collaborative research.

SPEAKING AND LISTENING:

A. Foundational Skills

1.a. Engage effectively in a range of collaborative discussions with peers and adults in small and larger groups.
1.c. Listen to the speaker with interest and attention until the end of the statement or story.
1.d. Summarize and determine the main ideas and supporting details of a text that has been read aloud.
1.e. Listen to speakers in order to make connections; comprehend; and gain, clarify, or deepen understanding of a topic or issue.
1.f. Build on others' ideas in discussion and express own ideas clearly.
2.a. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details.
3.a. Use audio, digital, and visual media (drawings, graphs, or displays) in presentations.
4.a. Speak clearly and at an understandable pace with appropriate tone, gestures, and body language.
5.a. Speak in complete sentences, following grammatical rules, in order to provide requested detail or clarification.

MATH:

B. Operations and Algebraic Thinking

1.c. Multiply and divide within 100.
1.d. Use strategies to solve multiplication and division problems.
2.b. Apply the relationship between multiplication and division to solve multiplication and division problems with one unknown.

D. Measurement and Data

1.c. Read volume measurements in milliliters and liters from a standard labeled container.
1.d. Estimate volume measurements in milliliters and liters.
1.e. Demonstrate understanding of the relationship between milliliters and liters.
5.d. Measure areas in whole numbers by counting unit squares.

SCIENCE:

B. Earth and Space

1.b. Explain the global water cycle.
1.c. Identify the states of matter (such as water) as they exist in the water cycle.
1.d. Describe the impact of bodies of water (such as lakes, seas) on regional climates.
1.e. Describe the effects of the water cycle on regional climates.
1.f. Distinguish between various natural water issues that impact local and global communities (such as flooding, drought, seasonal changes).

SOCIAL STUDIES:

C. Understanding the Word from a Spatial Perspective

1.c. Apply tools and features (such as cardinal directions, legend, simple grid system) to help read and interpret maps and globes.

ECONOMICS AND APPLIED SCIENCES:

C. Nutritional Health and Food Science

1.c. Describe the benefits of drinking water.

D. Managing Individual and Family Resources and Rationing Consumption

2.b. Advocate for conserving family resources (such as water, food, and electricity).

2.c. Relate how conserving and/or rationing resources promotes individual and community health.

COMPUTATIONAL THINKING:

Science:

A.1.c. Represent data in tables to reveal patterns.

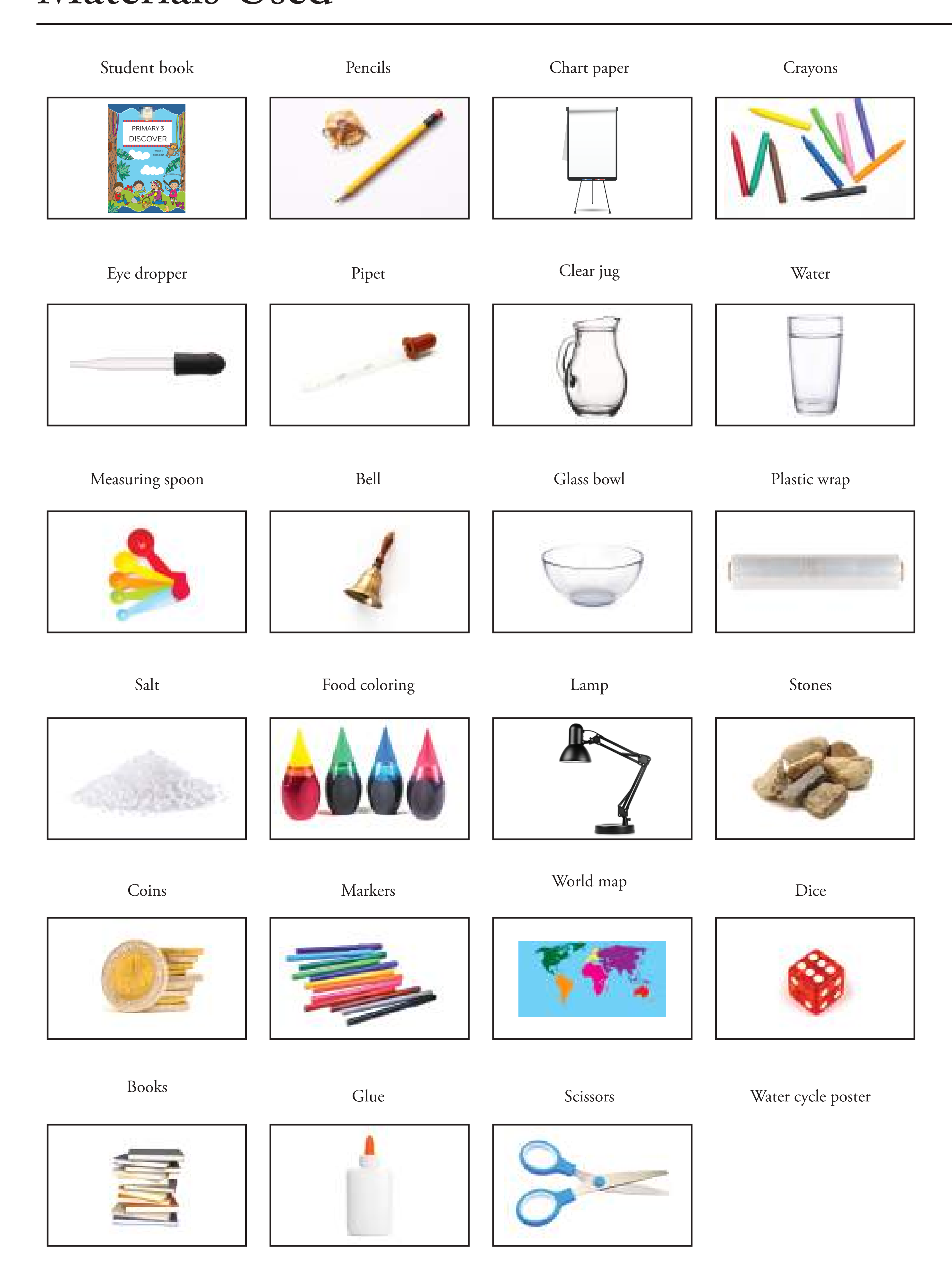
Social Studies:

C.1.c. Apply tools and features (such as cardinal directions, legend, simple grid system), to help read and interpret maps and globes.

CH 2 Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	**DISCOVER: Students will:** • Describe the importance of water in our lives. • Illustrate the distribution of water on Earth. • Explain how to conserve water.
2	**DISCOVER: Students will:** • Identify stages of the water cycle. • **Model** the water cycle.
3	**DISCOVER: Students will:** • Describe the difference between weather and climate. • Construct a definition for climate. • Describe the local climate.
4	**LEARN: Students will:** • Identify water's impact on climate. • Apply multiplication and division to solve precipitation story problems. • Compare climates in Egypt using weather data.
5	**LEARN: Students will:** • Use a world map to locate city proximities to bodies of water. • Apply map key to measure distances. • Use evidence to support answers about climate.
6	**LEARN: Students will:** • Analyze climate data to determine city locations on a world map. • Make claims about a city's location in relation to bodies of water.
7	**LEARN: Students will:** • Identify water issues that impact Egypt and global communities. • Explain where specific water issues are most likely to occur.
8	**SHARE: Students will:** • Research a specific region's climate. • Record and organize notes from research.
9	**SHARE: Students will:** • Collaboratively plan elements of a museum display. • Build a museum display using researched information.
10	**SHARE: Students will:** • Present museum displays. • Record information from student displays. • Make comparisons between habitats.

Materials Used



Lesson 1 Overview

LEARNING OUTCOMES

Students will:
- Describe the importance of water in our lives.
- Illustrate the distribution of water on Earth.
- Explain how to conserve water.

KEY VOCABULARY

- Conserve

MATERIALS

- Student books
- Chart paper (per row/ group)
- Pencils
- Different colored crayon or maker per group
- Blue crayon
- Eye dropper or pipet
- Large, clear jug
- 4 L water (does not have to be drinkable)
- Measuring spoon
- Three small clear 250 ml containers

PREPARATION

- Prepare a large chart paper with the word WATER written vertically on the page for the beginning of class.
- If possible, collect and display pictures of the Aswan High Dam from books or the internet.
- Have chart paper for each row or table hung up around the room.
- Prepare name tents with the following labels: total water on Earth, salt water, fresh water, frozen water, total liquid water, and usable water.
- Set up an area for the water demonstration (step 5 in the lesson below). You will need the 4L jug of water, the smaller containers, the measuring spoon and the eye dropper. Make sure that this area is visible to all students.
- See Lesson 2 Preparation for instructions on how to set up a demonstration that needs to be prepared one day in advance of the lesson.

LIFE SKILLS

Learn to Be

Communication:
- Reading, writing, non-verbal communication skills.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter.

TEACHER SAY: **We are starting a chapter called "Water, Water Everywhere." What do you think we might learn?**

TEACHER DO: Use Calling Sticks to choose three students to answer the question before continuing.

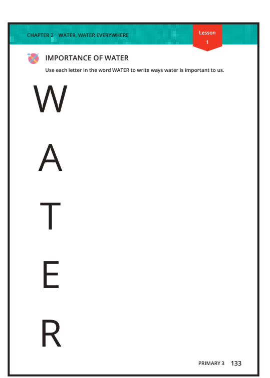
 STUDENTS DO: Predict what they will learn.

TEACHER SAY: **We will be learning about the importance of water in our lives and our world. What is your favorite activity that involves water?**

TEACHER DO: Use Calling Sticks to choose three students to answer the question before continuing.

STUDENTS DO: Share thoughts with the class.

2. TEACHER DO: Distribute student books. Make sure each student has a pencil and some crayons.



TEACHER SAY: **Very good. It sounds like water is an important part of our lives. Let's think more about how important water is. Open your student book to the page Importance of Water. What word do you see written down the page?**



STUDENTS DO: Read the word WATER aloud.

TEACHER SAY: **This is not how we normally write a word. Why do you think it is written this way?**



STUDENTS DO: Share ideas.

TEACHER SAY: **We will write a poem about water with a specific format. We will use the letters in the word water to think of ways water is important to us. For example, W—washing ourselves and our food. Watch as I write the first line of my poem.**

TEACHER DO: Demonstrate how an acrostic works by showing students how to write using the letters in the word water on a large piece of chart paper.

Note to Teacher: This is a simple draw/write activity that will be expanded on later. The goal is to activate prior knowledge and make connections.



READ ALOUD: **Use each letter in the word WATER to write ways water is important to us.**



STUDENTS DO: Write an acrostic about ways water is important. (This is an opportunity for students to practice the Life Skill: Communication.)

TEACHER DO: Circulate around the room to prompt students as needed. You may also choose to complete your own acrostic to share. Look for examples and call on students to share them with the group.

TEACHER SAY: **Well done. Please share the poem with a Shoulder Partner.**



STUDENTS DO: Share with **Shoulder Partner**.

TEACHER DO: For each letter, call on a few students to share lines with the class.

3. TEACHER SAY: **Thank you for sharing. Let's continue thinking about how water is important to us by thinking about all the ways we use water. What are some ways you use water throughout the day?**



STUDENTS DO: Share ideas, such as brush teeth, shower, wash clothes, drink, and so on.

TEACHER SAY: **What about our community? How do people in the community use water in other ways?**



STUDENTS DO: Share ideas, such as water crops, clean store floors, and so on.

TEACHER SAY: **Sometimes water is used in ways we do not easily see. Did you know that falling water can help create electricity, like at the Aswan High Dam?**

TEACHER DO: Show pictures of the Aswan High Dam. Have chart paper for each row or table hung up around the room. Assign each row/group to one paper.

TEACHER SAY: **Each row/group will get a different colored marker.**

TEACHER DO: Hand out one color of crayons or markers to each group.

TEACHER SAY: **When I say go, you will begin writing or drawing a way that water is used on your paper. When you hear the bell, stop writing.**

 **STUDENTS DO:** Stand next to assigned paper with crayons or markers.

TEACHER SAY: **When I say go, begin. Go.**

 **STUDENTS DO:** Write/draw ways water is used, such as for transportation, for growing plants, for drinking, and so on.

TEACHER DO: After five minutes, ring the bell to get students' attention.

TEACHER SAY: **Nicely done. Next, you will move in this direction to the next poster.**

 **STUDENTS DO:** Move to the next poster.

TEACHER SAY: **This time, you must first read and look at the pictures drawn, then you may add anything they do not have on their poster. We will continue around the room until you have visited each poster. Go.**

 **STUDENTS DO:** Read and look at posters before adding to it with new ideas.

TEACHER DO: Continue to ring the bell and move students on to the next poster until they have returned to their own. You may reduce the time as you progress if students begin to run out of ideas.

 **STUDENTS DO:** Continue around the room until students return to their original poster.

TEACHER SAY: **You did a fine job. Take a moment to look at your own poster and see all the ideas that others have shared.**

 **STUDENTS DO:** Read and reflect on poster.

TEACHER SAY: **We can see that by looking at these papers, water is indeed important and used in many ways. What is one way water is used that you have never thought about before?**

TEACHER DO: Use **Calling Sticks** to select several students to respond.

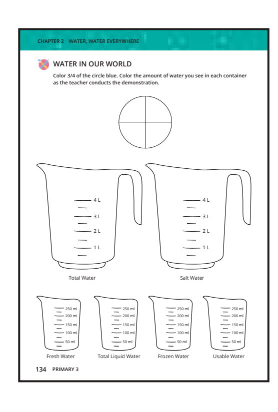
 **STUDENTS DO:** Share ideas with the class.

Note to Teacher: Share ideas with students that they may not have thought about, such as water cooling a gasoline engine in a car; fruits and vegetables filled with water; our bodies sweating out water; and water used in printing, painting, pottery, and pouring cement.

4. TEACHER SAY: **We know how important water is. Let's put this idea together with our current study of world maps. Let's think: Where can we find the water in our world?**

TEACHER DO: Use **Calling Sticks** to select several students to respond.

 **STUDENTS DO:** Share ideas with the class.



CHAPTER 2 WATER, WATER EVERYWHERE

WATER IN OUR WORLD

Color 3/4 of the circle blue. Color the amount of water you see in each container as the teacher conducts the demonstration.

4 L
3 L
2 L
1 L
Total Water

4 L
3 L
2 L
1 L
Salt Water

250 ml 200 ml 150 ml 100 ml 50 ml — Fresh Water

250 ml 200 ml 150 ml 100 ml 50 ml — Total Liquid Water

250 ml 200 ml 150 ml 100 ml 50 ml — Frozen Water

250 ml 200 ml 150 ml 100 ml 50 ml — Usable Water

134 PRIMARY 3

TEACHER SAY: **Very good. We can find water in rivers, lakes, and seas. Let's think about all the water in our world. The surface of our planet is covered by almost 3/4 water. Let show what 3/4 looks like in a circle. Open your student book to the page Water in Our World.**

 **READ ALOUD:** **Color 3/4 of the circle blue.**

 **STUDENTS DO:** Color 3/4 of the circle blue.

TEACHER SAY: **It looks like there is a lot of water on the surface of our planet we can use. But can we use all this water to drink and grow our crops? What do you think?**

TEACHER DO: Use **Calling Sticks** to select several students to respond.

STUDENTS DO: Share ideas with the class.

TEACHER SAY: You are correct. Some of the water on the surface of our planet, especially in oceans and some seas, is salt water. We cannot drink salt water or use it to water our crops. We have talked about how useful models can be for understanding big ideas. Let me show you a model of all the water on our planet. Then we will divide it into how much is usable or unusable for many of the activities we just mentioned.

5. TEACHER DO: Hold up a large jug of approximately 4 liters of water.

Note to Teacher: If students have been introduced to how to read volume measurements in math, consider calling a student up to help you read the measurements for practice at each step in the demonstration. If 4 liters is not feasible, the demonstration can be done with 2 liters with all subsequent volumes halved or with 1 liter with all subsequent volumes quartered. See the table below for proportional measurements.

Type of Water	Amounts to Use in Demonstration		
Total water on Earth	4 L	2 L	1 L
Fresh water	100 mL	50 mL	25 mL
Frozen water	70 mL	35 mL	17.5 mL
Total liquid water	30 mL	15 mL	7.5 mL
Usable, accessible water	6 drops (0.3 mL)	3 drops (0.15 mL)	1.5 drops (0.075 mL)

TEACHER SAY: This jug represents all the water on the surface of our planet. It includes saltwater oceans and seas, frozen polar ice caps and glaciers, freshwater lakes and rivers, and groundwater. In your student book, color the entire jug labeled TOTAL WATER with the amount of water you see in this jug.

TEACHER DO: Use a measuring cup to remove 100 mL from the jug and place into another container. Label this container FRESH WATER using the prepared name tent.

TEACHER SAY: This first small container represents the earth's supply of fresh water. Color the container FRESH WATER with the amount of water you see.

Note to Teacher: It is not necessary for students to precisely draw the amount (100mL) in the cup. This exercise is designed for students to visually see the proportions of fresh, salt and usable water available from the total amount on the surface of the planet. For example, the cup on the student book page should be a little less than half full when colored to represent the proportion of fresh water.

 **STUDENTS DO:** Color the container FRESH WATER.

TEACHER SAY: Fresh water is found on land. Where are some places we might find fresh water?

TEACHER DO: Use **Calling Sticks** to select several students to respond.

 **STUDENTS DO:** Share ideas with the class.

TEACHER SAY: Correct. We can find fresh water in lakes, ponds, rivers, streams, and groundwater, or water that flows under the ground.

TEACHER DO: Place the SALT WATER name tent over the TOTAL WATER name tent.

TEACHER SAY: The water left in the jug is all salt water from oceans and seas. We cannot drink it. Color the jug labeled SALT WATER with the amount of water you see left in the jug.

 **STUDENTS DO:** Color the jug SALT WATER.

TEACHER DO: As you demonstrate frozen versus liquid water next, prompt students to remember

the three states of water (solid, liquid, and gas) and consider why frozen water might not be easy to use or access. Measure 30 mL of the fresh water and pour it into the small container labeled TOTAL LIQUID WATER.

TEACHER SAY: **This second small container represents the liquid water that is available to us. Color the container labeled TOTAL LIQUID WATER with the amount you see.**

 STUDENTS DO: Color the container labeled TOTAL LIQUID WATER.

TEACHER DO: Place the name tent FROZEN WATER over the name tent FRESH WATER.

TEACHER SAY: **The water left in the container is frozen in glaciers and ice caps or is vapor in the air. Color the container labeled FROZEN WATER with the amount you see.**

 STUDENTS DO: Color the container labeled FROZEN WATER.

TEACHER DO: Extend the conversation by asking students to imagine why this water is not considered usable. Students may understand that glaciers often exist in areas of the world that are difficult to access, and it would be difficult to transport enough ice to melt into usable water. Allow other creative answers as appropriate.

TEACHER SAY: **Did you know that over 90% of the world's supply of fresh water is located in Antarctica? Who can come point to Antarctica on our world map?**

 STUDENTS DO: Identify the continent of Antarctica.

TEACHER DO: Using the eye dropper, remove six drops of water from the TOTAL LIQUID WATER. Drop all six drops into the third small container labeled USEABLE WATER.

TEACHER SAY: **This third small container represents the water that is available for us to use because a lot of our water is either polluted or too hard to access. Color the container labeled USEABLE WATER with the amount you see.**

 STUDENTS DO: Color the container labeled USEABLE WATER.

TEACHER SAY: **Wow. Are you surprised that out of all the water on the planet's surface, this is all that we can use? Show me a Thumbs Up if this surprised you.**

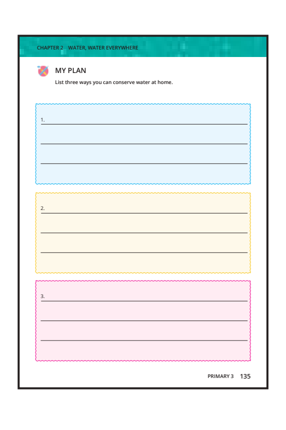
 STUDENTS DO: Show **Thumbs Up** if surprised by the demonstration.

TEACHER SAY: **Think about this demonstration for a minute. Why is conserving water, or using water wisely, important?**

TEACHER DO: Allow students some time to think. Use **Calling Sticks** to select three students to respond.

TEACHER SAY: **You are correct. Since we do not have a lot of useable water, we must try to conserve it or not waste it. What are some ways you conserve water in your families? Turn and share with a Shoulder Partner.**

 STUDENTS DO: Share ideas with **Shoulder Partner**.



TEACHER DO: Use **Calling Sticks** to have several students share with the class.

 STUDENTS DO: Share ideas with the class.

TEACHER SAY: **When we conserve water, we help ourselves and our community. Open your student book to the page My Plan.**

 READ ALOUD: **List three ways you can conserve water at home.**

 STUDENTS DO: List three ways to conserve water at home.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We have been talking about how we use water and where water can be found across the world. Let's think locally again. Where do you think the water we drink comes from?

TEACHER DO: Use **Calling Sticks** to select several students to respond.

 **STUDENTS DO:** Share ideas with the class.

Lesson 2 Overview

LEARNING OUTCOMES

Students will:
- Identify stages of the water cycle.
- **Model** the water cycle.

PREPARATION

- If possible, collect books and/or pictures of the Siwa oasis and plants and animals that live there. Leave these in an area where interested students can investigate further.
- Set up the solar still demonstration at least a day in advance (see drawings below). You may set up the experiment in a hot, sunny location outside and take students out to view it, or you may place a bright lamp (with an incandescent bulb) above the experiment in the classroom. Fill the large glass bowl approximately 5 cm deep of water. Add 15 grams of salt and stir to dissolve the salt. Add a drop of blue food coloring. Place the smaller bowl into the larger bowl with the salt water. (The small bowl should be empty.) Cover the bowl with plastic wrap, leaving it slightly depressed in the center. Place a few stones or coins in the center of the plastic wrap. Place the bright lamp over the set up or place it outside in a hot, sunny area.
- Hang a large poster of the water cycle in the classroom if available.

KEY VOCABULARY

- Climate
- Condensation
- Evaporation
- Groundwater
- Oasis
- Precipitation
- Runoff
- Spring
- Water cycle

LIFE SKILLS

Learn to Know

Critical Thinking:
- Identify subject/topic-related information.

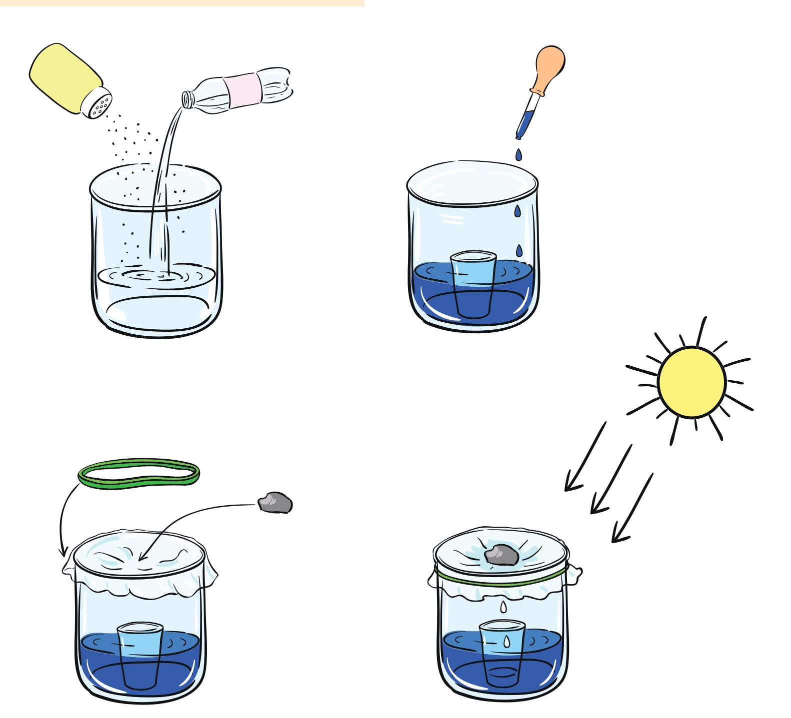
Learn to Work

Collaboration:
- Respect for other opinions.

Decision-Making:
- Identify results and expected results.

MATERIALS

- Bell
- Large glass bowl
- Smaller glass bowl that fits inside the larger bowl and is heavy enough to not tip over
- Plastic wrap to cover the bowl
- 15 grams of salt
- Blue food coloring
- Water
- Bright lamp (or sunny, warm place outside)
- Several small stones or coins
- Large poster of the water cycle, if available
- Student books
- Pencils



Solar Still Demonstration



Discover (90 minutes)

Directions

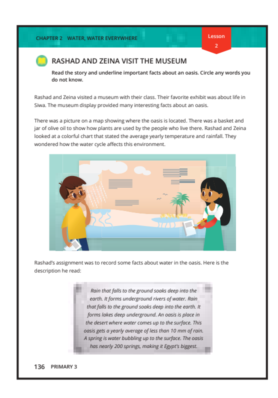
1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **Yesterday, we talked about the importance of water and how water is used. Did you conserve water yesterday at home? How have you used water today? Share with a Shoulder Partner.**



STUDENTS DO: Share responses with **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class, then hand out student books.



CHAPTER 2 WATER, WATER EVERYWHERE

Lesson 2

RASHAD AND ZEINA VISIT THE MUSEUM

Read the story and underline important facts about an oasis. Circle any words you do not know.

Rashad and Zeina visited a museum with their class. Their favorite exhibit was about life in Siwa. The museum display provided many interesting facts about an oasis.

There was a picture on a map showing where the oasis is located. There was a basket and jar of olive oil to show how plants are used by the people who live there. Rashad and Zeina looked at a colorful chart that stated the average yearly temperature and rainfall. They wondered how the water cycle affects this environment.

Rashad's assignment was to record some facts about water in the oasis. Here is the description he read:

Rain that falls to the ground soaks deep into the earth. It forms underground rivers of water. Rain that falls to the ground soaks deep into the earth. It forms lakes deep underground. An oasis is place in the desert where water comes up to the surface. This oasis gets a yearly average of less than 10 mm of rain. A spring is water bubbling up to the surface. The oasis has nearly 200 springs, making it Egypt's biggest.

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2. TEACHER SAY: Let's begin by reading a story to help us think about today's topic. Open your student book to the page Rashad and Zeina Visit the Museum.



READ ALOUD: **Read the story and underline important facts about an oasis. Circle any words you do not know.**

Note to Teacher: The passage contains a lot of new information and quite a few words that will likely be unfamiliar to students. You may wish to spend additional time reviewing vocabulary as a class, or you may wish to read this with students, pausing to note new terms and facts.



STUDENTS DO: Read the story and underline important facts about an oasis and circle words students do not know.

TEACHER SAY: **It sounds like Rashad and Zeina enjoyed their museum visit. We will use information in this chapter to create our own museum display for our Share Project. Turn to the page My Vocabulary.**



READ ALOUD: **Share the words you circled with a Shoulder Partner. Discuss what you both think the words mean. If there are any words you and your partner do not know, write them here.**



STUDENTS DO: Review circled words and discuss to find meaning with **Shoulder Partner**.

TEACHER DO: As students work, circulate around the room to offer clarification if needed.

TEACHER SAY: **Let's practice a new strategy called Ask 3 Before Me. Take your student books and walk around the room to see if you can find someone who knows the meaning of the words you and your partner did not know. Ask at least three people for each word before you return to your seats.**



STUDENTS DO: Circulate around the room to find definitions for the words they did not know.

TEACHER DO: Encourage students to circulate around the room.

Note to Teacher: This is an active strategy meant for practicing the Life Skill: Collaboration. It is possible, however, that students will share misunderstandings of vocabulary words. If time allows, review many of the key words in the reading and provide definitions so that students can confirm or correct what they have recorded from others' ideas.

TEACHER DO: Use a bell or other signal to encourage students to return to their seats.

TEACHER SAY: **Raise your hand if there is still a word you do not understand, and I will help you.**



STUDENTS DO: Ask for clarification of words they do not understand.

TEACHER DO: Provide definitions as needed.

3. TEACHER SAY: Rashad and Zeina wondered about how the water cycle affects the oasis. Has anyone ever heard the term WATER CYCLE before? What do you already know about this term?

TEACHER DO: Call on students who volunteer.

 **STUDENTS DO:** Share knowledge about the water cycle with the class.

Note to Teacher: The following discussion, combined with student observation of the demonstration is specifically designed to activate student thinking in an "activity before content" strategy. Cognitive science recommends that students first have an experience and then learn vocabulary and content once they have a context for new information. It is recommended that you read through the entire discussion that follows so that you can anticipate student questioning. It is also recommended that you refrain from beginning this part of the lesson by listing vocabulary and telling students what is happening. Many of the open-ended questions are designed to push students to think like scientists, and develop knowledge on their own.

TEACHER SAY: The water cycle describes how water changes as it moves around the earth. Let's look at a demonstration I have set up, then we will discuss what we can learn about our world from the demonstration. I placed some salt water, which is blue, in the larger bowl. Then, I placed the smaller, empty bowl into the larger bowl and covered them both with plastic wrap. Finally, I placed a few stones on top of the plastic.

 **STUDENTS DO:** Share what they observe, such as small drops of water on the plastic.

TEACHER SAY: Water can be found in three states. Does anyone remember the three states of water we learned in Primary 2?

TEACHER DO: Use **Calling Sticks** to select several students to respond.

 **STUDENTS DO:** Share ideas about states of water (solid, liquid, gas).

TEACHER SAY: Water can be a solid like an ice cube. Water can be a liquid, like when we drink a glass of water. Water can be a gas or vapor like the steam we see when water is boiling on the stove. Knowing this, how would you describe the little drops you see on the plastic?

TEACHER DO: Uses **Calling Sticks** to select several students to respond.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Where do you think those drops came from?

TEACHER DO: Uses **Calling Sticks** to select several students to respond.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: They actually came from the water at the bottom of the bowl. Heat causes water to turn to gas and rise. We call this EVAPORATION. Just like when we boil water on a stove. We cannot see water vapor in the air. Sometimes we can feel it on our skin as humidity or see it like smoke if it we breath out when it is very cold outside. Where was the heat in our demonstration?

TEACHER DO: Uses **Calling Sticks** to select several students to respond.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Correct, the heat came from the lamp [or the sun outside]. The heat caused the blue water to evaporate. This process is called EVAPORATION. Repeat the word EVAPORA-TION after me.

 **STUDENTS DO:** Repeat the word EVAPORATION.

TEACHER SAY: This is an important, academic word. We will learn a few important words as we study the water cycle today. Let's use hand motions to help us remember. Show me a hand motion for evaporation.

TEACHER DO: Use **Calling Sticks** to select several students to respond.

STUDENTS DO: Share a hand motion, such as fingers wiggling up to the sky.

TEACHER SAY: Let's all do the hand motion for evaporation.

STUDENTS DO: Show hand motion for evaporation.

TEACHER SAY: Why do you think we covered the bowl with plastic?

TEACHER DO: Use **Calling Sticks** to select several students to respond. Students may not know the actual answer to this question, but allow them to offer a variety of ideas.



STUDENTS DO: Share ideas. (This is an opportunity for students to practice the Life Skill: Decision-Making.)

TEACHER SAY: When this gas, which is called water vapor, cools off, it condenses or changes back to a liquid. The plastic trapped the water vapor and as the water vapor cooled, it condensed back into a water drop. This is called CONDENSATION. Repeat CONDENSATION.



STUDENTS DO: Repeat CONDENSATION.

TEACHER SAY: Let's think of a hand motion for condense or condensation.

TEACHER DO: Use **Calling Sticks** to select several students to respond.

STUDENTS DO: Share a hand motion such as fingers on both hands coming together to form a ball.

TEACHER DO: Have students practice the hand motion.

TEACHER SAY: Why do you think I placed a few coins in the center of the plastic?

TEACHER DO: Uses **Calling Sticks** to select several students to respond. Again, students may not know the answer, but allow them to share possible ideas.

STUDENTS DO: Share ideas.

TEACHER SAY: What do you think is in the smaller bowl?

TEACHER DO: Use **Calling Sticks** to select several students to respond.

STUDENTS DO: Share ideas about what is in the smaller bowl.

TEACHER SAY: I will uncover the bowls so we can see what is in the smaller bowl.

TEACHER DO: Carefully remove the plastic wrap from the bowls. Call a student to come look in the smaller bowl and describe what they see to the class.

STUDENTS DO: Share what they see in the smaller bowl.

TEACHER SAY: You are correct. There is water in the smaller bowl. Where do you think it came from?

TEACHER DO: Use **Calling Sticks** to select several students to respond.

STUDENTS DO: Share ideas.

TEACHER SAY: Let's think about what we know. I told you that the water at the bottom of the

bowl was salt water. After evaporating and condensing, do you think the water in the smaller bowl is salty? Why or why not? Share your answer with a Shoulder Partner.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER DO: Allow a few students to share ideas with the whole class. Consider having a student taste the water in the smaller bowl to confirm, then discuss with students why the water is not salty. (The salt does not evaporate, so the water is turned into gas and condenses, while all the salt stays in the larger bowl).

TEACHER SAY: When water evaporates, condenses into a cloud, and then falls back to earth as rain, snow, sleet, or hail, we call it PRECIPITATION. Repeat PRECIPITATION.

 **STUDENTS DO:** Repeat the word PRECIPITATION.

TEACHER SAY: What hand motion should we use for precipitation?

 **STUDENTS DO:** Share a hand motion, such as wriggling fingers falling down to the ground.

TEACHER DO: Have students practice the hand motion.

TEACHER SAY: If we cover the bowls again and leave them until all the water evaporates, what do you think would happen to the salt and why? Share your answer with your Shoulder Partner.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to select several students to respond to the question.



 **STUDENTS DO:** Share ideas. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

TEACHER DO: If it is feasible to continue the experiment over multiple days, place bowls back in the same location and check them each day until the water has evaporated. Then, allow students to examine the bowls. Students should notice that the salt did not evaporate with the water. Ask students if this is an efficient way to separate salt from water and to explain their thinking.

Note to Teacher: For more advanced students, you might relate the topic of density to the salt not being able to evaporate along with the liquid water. Interested students might want to try a different shaped-solar sill and compare the efficiency of separating the salt from the water.

TEACHER SAY: We have learned three very important words as part of the water cycle. Let's make sure we can remember them and our hand motions. I will start with water in a sea and describe the water cycle. When you hear one of our words—evaporation, condensation, or precipitation—show me the hand motion.

When the sun bears down on the Red Sea, the surface water EVAPORATES. As it rises in the air, the air high above Earth is cooler than on the surface. The water vapor cools and CONDENSES into clouds. The clouds travel across the sky, and the water falls as PRECIPITATION over the land.

 **STUDENTS DO:** Perform hand motions.

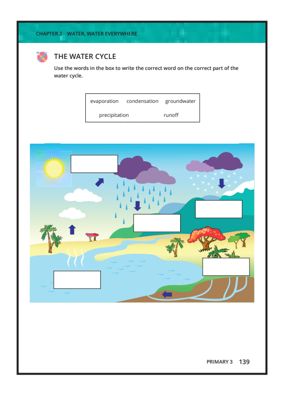
Note to Teacher: You may revisit these hand motions throughout this and the next chapter for repeated review. Have students lead the rest of the class in doing the hand motions in random order.

4. TEACHER SAY: Now that you know a little more about how water moves from seas to the sky (clouds) and back to the land, what kind of water do you think is in precipitation? What kind of water is rain? Is it fresh or is it salt water?

 **STUDENTS DO:** Offer ideas. Students should note that rain is fresh water.

TEACHER SAY: Yes. When water falls to the ground as rain, it is fresh water, even if it started

out as evaporation from a salty sea or ocean. This is because the salt does not evaporate. This is important to remember when we think about our earth's total water sources.



5. TEACHER SAY: In the previous lesson, we saw how little of the earth's total fresh water is usable. This water cycles, or moves through the air, land, and water, in a continuous way. Turn to the page in your student book called The Water Cycle. Let's record what we have learned on a diagram that will also help us remember.



READ ALOUD: Use the words in the box to write the correct word on the correct part of the water cycle.

TEACHER SAY: As I describe each part of the water cycle, find the word that fits and write it on the picture of the water cycle.

- The sun heats large bodies of water, like the ocean, causing the liquid water to turn to a gas called water vapor. This is evaporation.
- The water vapor cools as it rises in the atmosphere and creates a cloud, or tiny drops of water held together. This is called condensation.
- As more drops of water stick together, the cloud gets heavier and the water droplets eventually fall to the ground as rain, snow, hail, or sleet. This is called precipitation.
- When rain flows down the sides of mountains, it is called runoff.
- Some of the rain soaks deep into the ground, forming underground rivers. This is called groundwater.



STUDENTS DO: Listen and write the words on the picture.

TEACHER SAY: This process goes on and on, creating a cycle. The cycle has many different paths. One water droplet may evaporate, condense into a cloud, fall as precipitation over the ocean, and evaporate again and again.

Or, the water droplet may evaporate over an ocean, condense into a cloud, travel a long distance, and rain on a mountaintop. What is another path the water drop might take?

TEACHER DO: Use **Calling Sticks** to select three students to give examples.



STUDENTS DO: Share different paths a water drop might take in the water cycle.

TEACHER SAY: There are many, many different paths to the water cycle. We keep using and reusing the same water over and over again. You might be drinking water that dinosaurs drank.
6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: As we wrap up today, let's put two parts of what we know together. If heat causes evaporation to occur, would you expect to have a lot of precipitation near the poles? Why or why not? Turn and share with a **Shoulder Partner**.



STUDENTS DO: Share ideas with **Shoulder Partner**.

Lesson 3 Overview

LEARNING OUTCOMES

Students will:
- Describe the difference between weather and climate.
- Construct a definition for climate.
- Describe the local climate.

KEY VOCABULARY

- Average
- Climate
- Meteorologist
- Weather

MATERIALS

- Bell
- Chart paper or white board
- Markers
- Average precipitation and temperature graphs for local region or computer resources, if available
- Student books
- Pencils

PREPARATION

Create a chart of weather temperatures for your area for one week. Show the days of the week and the temperatures. Create a chart of climate for your area, showing the months of the year and the average daily temperatures for each month. Provide data in the form of monthly graphs for average precipitation and temperature for your local region. Alternatively, if computer resources are available, students can research this data.

LIFE SKILLS

Learn to Know

Critical Thinking:
- Identify subject/topic-related information.
- Explain thinking processes.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the last lesson, we learned that water travels around our planet in a cycle that can take many paths. Turn to a Shoulder Partner and share the names you can remember of the different paths, such as evaporation.

 **STUDENTS DO:** Share the terms evaporation, condensation, precipitation, runoff, and groundwater.

Note to Teacher: You may also have a student or students lead the class in reviewing the hand motions for evaporation, condensation, and precipitation.

2. TEACHER SAY: As water travels through the water cycle, it helps create what we call weather. In the previous lesson we learned the word PRECIPITATION. That is a specific word that can describe water returning to Earth in different forms. Informally, what do we call liquid water when it falls from the sky?

 **STUDENTS DO:** Share ideas (rain).

TEACHER SAY: Yes, sometimes the water cycle causes rain. Another form of precipitation happens when falling water is not liquid, but in solid form. This does not happen in our country, but does anyone know what we call precipitation when the water falling is solid?

 **STUDENTS DO:** Share ideas (snow or hail).

TEACHER SAY: What other ways do you think the water cycle affects our weather? Can you think of other examples? Share ideas with your Shoulder Partner.


STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER SAY: You are making great connections. If it is hot and the air almost feels wet, we say it is humid. If we see a lot of clouds in the sky, we say that it is cloudy. These are all descriptions of weather that relate to the water cycle. Turn to your Shoulder Partner and discuss other ways we describe the weather that are not necessarily related to the water cycle.


STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER SAY: You remember a lot about the weather. We measure the heat or coolness of the air by describing the TEMPERATURE. If the air is moving quickly, we say that it is windy and can measure the wind speed. With all of these factors in mind, how would you describe today's weather?

TEACHER DO: Use **Calling Sticks** to ask several students to describe the current weather.


STUDENTS DO: Share facts about the weather, such as temperature, precipitation, wind speed, amount of clouds, and so on.

3. TEACHER SAY: Very good. Weather means the conditions around us over a short period of time, such as hour to hour or over a few days. We can describe the temperature of the air, the kind of precipitation, the speed of the wind, and other conditions. A meteorologist is a scientist who studies the weather. A meteorologist studies patterns in weather to make predictions based on observed data. They can help us be prepared for colder or wetter conditions. What skills do you think you need to be a meteorologist?

TEACHER DO: Use **Calling Sticks** to ask several students to respond.


STUDENTS DO: Share ideas.

TEACHER SAY: A meteorologist uses computers to look for patterns in data and make predictions.

TEACHER DO: Write the following temperatures on chart paper or a white board: 29°C, 29°C, 27°C, 27°C, 25°C, 25°C, 23°C.

TEACHER SAY: This is temperature data. When do you think these temperatures were recorded? What time of year? What is the pattern you see? Turn to your Shoulder Partner to discuss.


STUDENTS DO: Identify a pattern with **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to ask several students to respond.


STUDENTS DO: Share thoughts with the class.

TEACHER SAY: What do you predict the next temperature will be? Explain your thinking.

TEACHER DO: Use **Calling Sticks** to ask several students to respond.


STUDENTS DO: Share thoughts with the class.

Note to Teacher: This is a good opportunity to discuss the computational thinking skill of pattern recognition. Extend this conversation and practice this skill with other examples of observable patterns in weather data. Simple patterns meteorologists might study include noting the temperature in the first week of July for 10 years in a row or noting the temperature just before and just after a rainstorm throughout a season.

TEACHER SAY: Very good predicting. A meteorologist must also have good communication skills. Raise your hand if you think you might like to be a meteorologist one day.


STUDENTS DO: Respond.

4. TEACHER SAY: Whether or not you are interested in a career studying the weather, the

weather affects each of us every day. Let's continue learning about how we describe the conditions around us. We know that WEATHER describes conditions in a short time frame, like a moment, day, or week. Have you ever heard the word CLIMATE? Tell a Shoulder Partner where you have heard this word or what you know about it.

 **STUDENTS DO:** Tell **Shoulder Partner** ideas about climate.

TEACHER SAY: If weather is the condition of the atmosphere around us over a short amount of time, what do you think climate is?

TEACHER DO: Use **Calling Sticks** to call on a few students to share ideas.

TEACHER SAY: We talked about climates when we studied habitats. Climate is the word we use for patterns in weather and the conditions around us over a long period of time, like over months or years. It also includes data collected over a region like Northern Egypt instead of a local area like our city or governorate. We often describe climates using AVERAGE temperatures or AVERAGE precipitation. Let's look at some local data to better understand the difference between weather and climate.

5. TEACHER DO: Show students the pre-prepared charts of local weather data for one week and climate data for a year.

TEACHER SAY: Look at these two charts. Who can tell us what they are about? When you answer, remember to also tell us how you arrived at your answer.

TEACHER DO: Use **Calling Sticks** to ask several students to respond.



 **STUDENTS DO:** Share initial observations from the two charts, such as titles, labels, patterns, and comparisons. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

TEACHER SAY: You did a great job navigating the basic information on these two charts. Let's learn more. This chart is titled WEATHER. It shows us days of the week and the daily temperatures for each day. This chart is titled CLIMATE. It has the months of the year and the average daily temperature. What do you think average daily temperature means? Where else have you heard the word AVERAGE?

Note to Teacher: Students are likely familiar with the word AVERAGE even if they have not yet learned it in mathematics. For this conversation, students do not need to know or be able to calculate the mathematical average. They only need to understand that an average temperature is a temperature near the middle of a certain range (same for average precipitation). You may demonstrate visually finding the middle on a number line to preview the math concept. At this point, and in order to understand how averages connect to climate, students only need to understand that there is a connection between mathematics and science.

TEACHER DO: Use **Calling Sticks** to ask several students to respond.

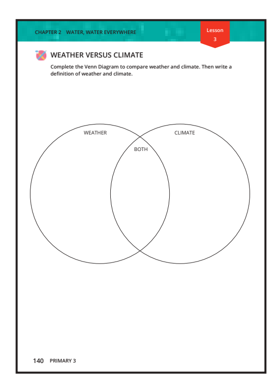
 **STUDENTS DO:** Share thoughts with the class.

TEACHER SAY: You will learn more about AVERAGES next year in mathematics, but for now we can understand that an average temperature means approximately the middle temperature of the most common numbers in a given range. For example, if I know that the average temperature in Aswan in June is 41 degrees, that means most days out of the month were around 41. The temperature may have ranged from 37 to 46, but over most weeks, the temperature stayed around 41.

TEACHER DO: As you describe the concept of AVERAGE, write the numbers you provide on a number line so that students can visually see the concept of "middle."

6. TEACHER SAY: Meteorologists use average temperatures to describe the climate of a region or location. Now that we have briefly discussed weather and climate, let's compare and contrast these two concepts to understand how they are alike and how they are different.

TEACHER DO: Hand out student books.





TEACHER SAY: Pair up and open your student books to the page Weather Versus Climate.



READ ALOUD: Complete the Venn Diagram to compare weather and climate. Then write a definition of weather and climate.



STUDENTS DO: Complete **Venn Diagram** and draft definitions.

TEACHER SAY: Find another pair of students, share your definitions, and explain your thinking.



STUDENTS DO: Two pairs join and share definitions and explain thought processes. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

7. TEACHER SAY: You have been working hard to learn about and distinguish two important concepts. Telling others about what we learn can help us remember. Let's imagine we have relatives who live far away and want to come visit us. How would you describe our climate to them? Use Think Time, then turn to the page My Local Climate. Read the directions, then work with a Shoulder Partner to complete the page.



STUDENTS DO: Use available data to describe the local climate and recommend the best time to visit.

Note to Teacher: The study of climate requires the analysis of long-term data and pattern recognition. While this activity relates to the computational thinking skill of pattern recognition, extend student understanding of the skill by prompting them to imagine how computers help meteorologists handle multiple years, or even decades, of data from many cities at once.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we compared and contrasted the ideas of weather and climate. If you were a meteorologist, which idea would you most want to study? Do you like the idea of predicting weather in the near future? Do you like the idea of studying climates over time? Turn and share with your Shoulder Partner.



STUDENTS DO: Share ideas and preferences with **Shoulder Partner**.

Lesson 4 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify water's impact on climate. • Apply multiplication and division to solve precipitation story problems. • Compare climates in Egypt using weather data.	• Climate • Precipitation • Water cycle	• Student books • Pencils • Large paper

PREPARATION

Have large pieces of blank paper at the front of the room to **Model** multiple ways to solve the multiplication and division problems as a whole class.

LIFE SKILLS

Learn to Know

Critical Thinking:

- Identify subject/topic related information.



Learn (90 minutes)

Directions

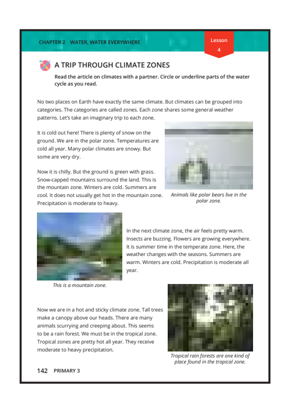
1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In the previous lesson, we discovered the difference between climate and weather. Turn and share with a Shoulder Partner one difference between the two concepts.**



STUDENTS DO: Discuss with partner.

2. TEACHER DO: Hand out student books.



CHAPTER 2 WATER, WATER EVERYWHERE — Lesson 4

A TRIP THROUGH CLIMATE ZONES

Read the article on climates with a partner. Circle or underline parts of the water cycle as you read.

No two places on Earth have exactly the same climate. But climates can be grouped into categories. The categories are called zones. Each zone shares some general weather patterns. Let's take an imaginary trip to each zone.

It is cold out here! There is plenty of snow on the ground. We are in the polar zone. Temperatures are cold all year. Many polar climates are snowy. But some are very dry.

Now it is chilly. But the ground is green with grass. Snow-capped mountains surround the land. This is the mountain zone. Winters are cold. Summers are cool. It does not usually get hot in the mountain zone. Precipitation is moderate to heavy.

Animals like polar bears live in the polar zone.

In the next climate zone, the air feels pretty warm. Insects are buzzing. Flowers are growing everywhere. It is summer time in the temperate zone. Here, the weather changes with the seasons. Summers are warm. Winters are cold. Precipitation is moderate all year.

This is a mountain zone.

Now we are in a hot and sticky climate zone. Tall trees make a canopy above our heads. There are many animals scurrying and creeping about. This seems to be a rain forest. We must be in the tropical zone. Tropical zones are pretty hot all year. They receive moderate to heavy precipitation.

Tropical rain forests are one kind of place found in the tropical zone.

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TEACHER SAY: **Climate is the average or overall weather in an area over a long period of time. There are many kinds of climates around the world. We will spend the next couple of lessons analyzing climates and climate data to help us prepare for our Share Project. As we explore climates, we will be scientists investigating how the water cycle affects a climate. Let's begin by reading an article on climate. As you read, circle examples of water or the water cycle. Open your books to the page A Trip Through Climate Zones.**



READ ALOUD: **Read the article on climates with a partner. Circle or underline parts of the water cycle as you read.**



STUDENTS DO: Read and circle examples of the water cycle with **Shoulder Partner**.

Note to Teacher: The main goal of this reading passage is for students to make connections between scientific knowledge of the water cycle and new information about different climates. You may support this goal by reading the passage aloud if new vocabulary and reading fluency presents barriers to comprehension.



TEACHER DO: As students work, monitor to ensure students are identifying examples of the water cycle, including snow and heavy precipitation. Make note if students can identify "sticky" as a type of water (humidity). This is an opportunity for students to practice the Life Skill: Critical Thinking.

TEACHER SAY: **First, let's discuss the passage. Then we will share what we learned about the water cycle and climates from our reading. What four climate zones are described in this passage?**

TEACHER DO: Call on students with raised hands and record the four zones on the board or chart paper. Facilitate conversation to informally assess student comprehension using questions such as:

- What explanation does the passage give for using the term ZONES?
- What words in this passage are familiar to you from our study of habitats?
- How does the passage use our senses to create rich descriptions?
- Which climate do you think you would most like to live in? To visit for a day?

TEACHER SAY: **You have obtained a lot of information from this passage. Well done. Now let's share what we learned about the water cycle.**

TEACHER DO: Use Calling Sticks to have students share examples of the water cycle identified in the passage. Prompt students to identify the state of water in each example (solid, liquid, or gas), and to explain why or how they knew the example highlighted was part of the water cycle. For example, if a student identifies "snow," have that student make the connection to a type of precipitation. Allow students to use evidence from images, captions, and the text for their answers.

TEACHER SAY: **I noticed that some of us [or no one, depending on student answers] identified STICKY as part of the water cycle. How do you think STICKY relates to the water cycle?**

TEACHER DO: Have students think about the type of weather that feels sticky. Humid air feels sticky. Explain to students that humid air is made from water vapor in the air. When the air feels sticky, it means there is a large amount of water vapor in the air.

TEACHER SAY: **There are many references to the water cycle in this article about climates. After reading the examples in the article, how do you think the water cycle and climates are connected?**



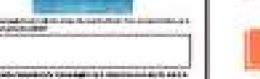
STUDENTS DO: Share ideas.

TEACHER SAY: **Great job learning about how the water cycle is an important part of a climate. We noticed that precipitation or lack of precipitation is a characteristic of climates in different regions. When weather scientists—meteorologists—collect data about the weather, they can measure the amount of precipitation that falls. This data helps provide information about the climate of an area. Do you think meteorologists use math in their jobs?**



STUDENTS DO: Share ideas.

TEACHER SAY: **Meteorologists can use multiplication and division to estimate how much rain will fall over a period of time. Let's see if we can solve some precipitation problems using what we are learning in math. Open your books to the page Precipitation Math.**



READ ALOUD: **Use multiplication strategies to solve the story problems.**

TEACHER SAY: **Let's solve the first two problems together. As we work together, record the work in your student book.**

TEACHER DO: Work as a class to solve the first two story problems. Choose a strategy, arrays, pictures, and so on, you should use to solve the problem. Model two different strategies. Allow students to complete the second two problems independently or with a Shoulder Partner. After finishing, solve the second two problems as a class to have students check answers. Encourage students to show multiple ways to solve each problem.



Note to Teacher: Depending on your students' math levels, you may choose to solve all four problems as a class. You may also choose to talk through ways to solve each problem before allowing students to show their work and find the answer independently. In this mathematics application, students will apply the computational thinking skills of decomposing and solving problems. Emphasize decomposition as you talk students through how to translate a word problem into a math equation.

TEACHER SAY: **Great job applying math to weather scenarios. In the real world, meteorologists and weather scientists use math to learn about and monitor weather and climates around the world. Let's continue to learn about how to analyze a region's climate to help us prepare for our Share Project later in the chapter. Turn to the page Comparing Egypt's Climates. Let's check in on our friends Rashad and Zeina.**

 **READ ALOUD: Read the story to learn about climates in Egypt.**

 **STUDENTS DO:** Read the story independently.

TEACHER SAY: Part of our Share Project includes describing a climate to others. What can we learn from how Rashad and Zeina describe climates in this story? Turn and share with a Shoulder Partner how our characters describe the climate in Alexandria.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**, using evidence from the story.

TEACHER SAY: Our characters describe Alexandria as feeling very hot, humid, and sunny in the summer months. They describe the winter months as warm and rainier. They contrast this description to Luxor, which they call a desert. A desert climate is hot and dry. Let's look back at the tables on the page. What information do these tables provide?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Yes, the tables show average monthly temperatures for Alexandria and Luxor. Look at the data presented. Does it support the descriptions Rashad and Zeina gave? Why or why not? Discuss with your Shoulder Partner.

 **STUDENT DO:** Share ideas with **Shoulder Partner**.

TEACHER SAY: This page demonstrates two different ways to communicate information about climates: two friends talking and data in tables. What is similar, and what is different between these two methods of communication?

 **STUDENTS DO:** Share ideas.

TEACHER DO: Prompt students to recognize that the two communication methods agree on the information itself, but the tables use numbers and the friends use words. The tables also provide specific month-to-month information, while the friends describe general patterns. The tables also only represent temperature, whereas the friends also included descriptions of precipitation and/or humidity.

3. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: You have worked hard today to learn more about analyzing and describing climates. We will begin our next lesson with some practice of how to communicate climate data. Let's think: What is most helpful about the tables at the bottom of the story? Turn and share with your Shoulder Partner.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER SAY: Who do you think uses data tables for communicating about climates? When might it be better to use words and sentences?

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

Lesson 5 Overview

LEARNING OUTCOMES

Students will:
- Use a world map to locate city proximities to bodies of water.
- Apply map key to measure distances.
- Use evidence to support answers about climate.

PREPARATION

Have a map of Egypt and a world map to display to the class. If not available, use previous maps provided in the student books for reference throughout the discussion.

KEY VOCABULARY

- Climate
- Distance
- Equator
- Map
- Poles

LIFE SKILLS

Learn to Work

Decision-Making:
- Identify results and expected results.

MATERIALS

- Student books
- Pencils
- World map
- Map of Egypt to display



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In the previous lesson, we compared climates in two cities in Egypt, Alexandria and Luxor. We also compared different ways to communicate information about a climate. Today we are going to practice communicating climate information so that we will be ready for our Share Project in a few lessons. Turn to a Shoulder Partner to informally chat about how the climates in Alexandria and Luxor were similar and different.**

TEACHER DO: Listen for student responses. Then select two or three students to share ideas. If you are not located in Alexandria or Luxor, ask students to determine which of those cities' climates is closest to your local climate.



STUDENTS DO: Discuss climates with **Shoulder Partner**.



CHAPTER 2 · WATER, WATER EVERYWHERE

Lesson 5

DESCRIBING CLIMATES IN EGYPT

Write two or three sentences to describe the climate in each city. Use weather data to support your answer.

Alexandria's Climate

Luxor's Climate

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2. TEACHER SAY: **Now let's see if we can use words to describe a climate more formally. Imagine you are helping a relative get ready for a trip to Luxor or Alexandria. What would that relative need to know about the climate to be prepared for the trip? Let's use the weather data tables we examined in the last lesson to explain the climate in each of these cities. Turn to the page Describing Climates in Egypt.**



READ ALOUD: **Write two or three sentences to describe the climate in each city. Use weather data to explain your answer.**

Note to Teacher: Even though the same cities are being described, encourage students to extend beyond the descriptions that Rashad and Zeina give in the story. Possible answers can include: The climate in Alexandria is mostly hot and humid. The temperature nearly always stays above _____ degrees Celsius. Alexandria also has warm winters with rain. The climate in Luxor is hot and dry. Luxor's temperature is always above ____. Luxor is a desert and receives no rain during the year.



STUDENTS DO: Write sentences describing the climate in Alexandria and Luxor.

TEACHER DO: As students work independently, monitor their writing. Prompt students to explain how the data is informing the climate statements. When finished, have students share descriptions in small groups.

TEACHER SAY: **You did a nice job turning a table of numbers into verbal information that is useful to a relative preparing to travel. Now that we know and have practiced how to communicate climate information, let's learn about some of the factors that can impact climate. This will also help us prepare for our Share Project at the end of the chapter. To start, let's learn where we can find these different climates around our world.**

3. TEACHER DO: Display a map of Egypt. Point to the locations of Alexandria and Luxor, or invite a student to locate and point to each city.

TEACHER SAY: **Here is a map of Egypt. Alexandria is located here. [Point to the location.] Luxor is located here. What do you notice is different about their locations in Egypt?**



STUDENTS DO: Identify Alexandria as being at the edge of the sea and Luxor being on the Nile but a distance from the Red Sea.

TEACHER SAY: **Yes, Alexandria is located on the Mediterranean Sea. I wonder, do you think that impacts Alexandria's weather? Think about what you learned was different between Luxor and Alexandria and what you know of the water cycle.**

TEACHER DO: Provide **Think Time** for students to consider the impact of Alexandria's location on the water. Then, call on two or three students to share ideas.

TEACHER SAY: **Alexandria is more humid and receives more rain than Luxor. This is partly because of its location along the water. Seas can also make the climate feel more mild or cooler than land further away from the ocean. This is one reason why Alexandria is not as hot as Luxor. Generally, the closer an area is to a large body of water, the more precipitation that area will receive. Think about what you know about the water cycle. Why would an area closer to a large body of water have higher amounts of precipitation?**

TEACHER DO: Provide **Think Time**. Display a model of the water cycle to refer to if available. Call on several students to share responses.

TEACHER SAY: **Oceans and seas around the middle of the Earth provide a large source of warm water. The sun heats the water, which then evaporates. What happens to the water as it evaporates?**



STUDENTS DO: Volunteer responses.

TEACHER SAY: **Yes, the water vapor cools and forms clouds of condensation. What happens next?**



STUDENTS DO: Volunteer responses.

TEACHER SAY: **The condensation falls in the form of precipitation. Then the water cycle repeats as the water that has fallen begins to evaporate. Oceans and seas provide a large water source for evaporation, causing a greater amount of precipitation.**

If you live near a large body of water, you might also have a more humid climate. This is warm, moist air that makes you feel sticky. How do you think the water cycle creates humid air?

TEACHER DO: Use **Calling Sticks** to select two or three students to answer.

TEACHER SAY: **Yes, when evaporated water hangs in the air on a warm day, we call it humidity. Now, let's think about the opposite scenario. If there are no bodies of water nearby, how do you think that impacts the climate? Share ideas with a Shoulder Partner.**



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to select two or three students to share responses with the class.

TEACHER SAY: Now, let's look at a world map. Let's consider another factor that can impact climate: an area's location in our world. Who remembers what the equator is? Who can find the equator on the map?

TEACHER DO: Invite students up to locate the equator and describe what the equator is based on previous learnings in Chapter 1.

TEACHER SAY: Yes, the equator is an imaginary line through the middle of our Earth. Areas close to the equator feel the hottest. The further you move away from the equator, the cooler the climate. Who remembers what we call the coldest climates that are near Earth's poles?

 **STUDENTS DO:** Share ideas.

TEACHER DO: Locate the north and south poles on the map.

TEACHER SAY: Here is Egypt. Is Egypt close or far from the equator? How do you think this impacts our climate?

 **STUDENTS DO:** Share ideas.

TEACHER DO: Call on students to share responses. Students should conclude that Egypt is closer to the equator than the poles, which produces a warmer climate.

4. TEACHER SAY: Great. We now understand that location in relation to the equator can impact temperature, and nearness to a body of water can impact precipitation. Both are factors in an area's overall climate. Now let's put together what you know about these factors by making claims about climate.

TEACHER DO: Put students into groups of four or five. Use the strategy **Numbered Heads** to facilitate thinking and discussions.

TEACHER SAY: I will ask a question. Discuss ideas in your small group. Once you have reached a consensus on an answer, I will call on one number from the groups to share the answer. Remember to support your answer with evidence. You can also reference the world map to observe locations.

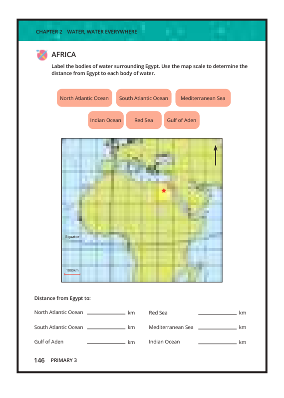
- **You are visiting a beach in Venezuela, which is in South America. What climate might you expect?**
- **I like warm, rainy weather. Where should I go?**
- **True or false? If I am in a desert, I can expect to see a lot of cloudy skies.**
- **True or false? You can expect a lot of precipitation on an island in the Arctic Ocean.**



TEACHER DO: As students share answers, make sure they are referencing the water cycle and an area's location (proximity to bodies of water, distance from the equator). For the fourth question, students are challenged to apply a nuanced understanding of the water cycle. Areas close to the north and south poles, although close to a body of water, do not receive high amounts of precipitation. This is due to the lack of the sun's heat to cause evaporation. Students do not need to understand the tilt of the earth or daylight patterns to arrive at this answer. They can simply reason from an understanding that the area furthest from the equator is cold. Ask guiding questions to assist students in making that connection. This is an opportunity for students to practice the Life Skill: Decision-Making.

5. TEACHER SAY: You were able to apply your knowledge of climate and the water cycle to answer questions as a group. Great job. In order to communicate to others how a large body of water might impact a climate, we need to be able to provide distances. Let's practice measuring distances between Egypt and different bodies of water. Sometimes when we measure in math, we use rulers. Do you think a ruler would help us measure the distance between the Atlantic Ocean and Egypt? Why or why not? Share ideas with a Shoulder Partner.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.


CHAPTER 2 WATER, WATER EVERYWHERE

AFRICA

Label the bodies of water surrounding Egypt. Use the map scale to determine the distance from Egypt to each body of water.

North Atlantic Ocean | South Atlantic Ocean | Mediterranean Sea

Indian Ocean | Red Sea | Gulf of Aden

Distance from Egypt to:

North Atlantic Ocean ________ km Red Sea ________ km

South Atlantic Ocean ________ km Mediterranean Sea ________ km

Gulf of Aden ________ km Indian Ocean ________ km

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TEACHER SAY: A ruler is certainly not a good tool if we want to measure the distance in reality by measuring the land itself. It would take thousands and thousands of rulers laid end to end to reach the Atlantic Ocean. A ruler CAN help up measure on a map, however. Open your books to the page Africa. What do you see and recognize on this map?

 **STUDENTS DO:** Observe the map and identify familiar landmarks or geographical features.

TEACHER SAY: You are getting good at reading maps. We can see the continent of Africa and many nearby bodies of water. Let's use the map to determine how far Egypt is from each body of water that is listed.

 **READ ALOUD: Label the bodies of water surrounding Egypt. Use the map scale to determine the distance from Egypt to each body of water.**

TEACHER SAY: Let's read the list of bodies of water first.

 **STUDENTS DO:** Read the bodies of water listed on the page.

TEACHER SAY: We have spent time exploring the world map before. You also know the bodies of water close to Egypt. Work with your Shoulder Partner to label the bodies of water.

TEACHER DO: You may choose to label the bodies of water as a class.

 **STUDENTS DO:** Label bodies of water surrounding Africa: Gulf of Aden, Red Sea, Mediterranean Sea, Indian Ocean, North Atlantic Ocean, South Atlantic Ocean.

TEACHER SAY: Great job. Now, on the map you notice there is a square grid. The grid helps show us distance. We can look at the legend on the map to tell us how large each square of the grid is. Let's look at the legend now. How large is one square on the map?

 **STUDENTS DO:** Read information on the legend.

TEACHER DO: Call on a student volunteer to identify the size of each square.

TEACHER SAY: Yes. One square is 1,000 kilometers by 1,000 kilometers. We can use this information to determine distances from Egypt to different bodies of water. On the bottom of the page each body of water is listed. On the line next to the name, write the approximate distance. Approximate means "about how far." Let's work on the first one together.

TEACHER DO: Guide students through approximating the distance from Egypt to the North Atlantic Ocean. Discuss that if the measurement ends in the middle of the square, this would mean half of 1,000. If necessary, divide 1,000 into fourths so students can use that information to help combine the distances measured.

TEACHER SAY: Now work with your Shoulder Partner to determine the approximate distance from Egypt to the South Atlantic Sea, Gulf of Aden, and Indian Ocean.

 **STUDENTS DO:** Read the grid map to approximate distances to bodies of water.

TEACHER DO: Support student pairs as they work. After providing time for students to complete the activity, review answers as a class. Ask students to explain how they determined the answers. Students should apply repeated addition of 1,000 km to measure long distances, adding 750 (3/4 of the box), 500 (1/2 of the box), or 250 (1/4 of the box) when appropriate.

Note to Teacher: When students use maps to simplify and break down the earth's surface through representations such as grid lines, students are practicing the computational thinking skill of decomposition and abstraction. Encourage students to think of ways that the symbols provided on a map or a globe aid in understanding of a complex system (our earth's topography, for example) by breaking it down into more tangible parts (grid lines or color codes provided in a legend).

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We worked hard learning how the water cycle and bodies of water impact climates in our world. We used a map to determine how far we are in Egypt from different bodies of water. Turn to your Shoulder Partner and share which body of water we are closest to and furthest from.



STUDENTS DO: Share with **Shoulder Partner** the bodies of water closest and furthest from Egypt.

Lesson 6 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Analyze climate data to determine city locations on a world map. • Make claims about a city's location in relation to bodies of water.	• Body of water • Climate	• Student books • Pencils • World map

PREPARATION

Display a world map that shows the city locations.

LIFE SKILLS

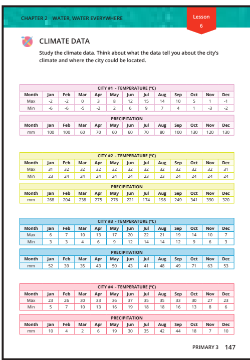
Learn to Know

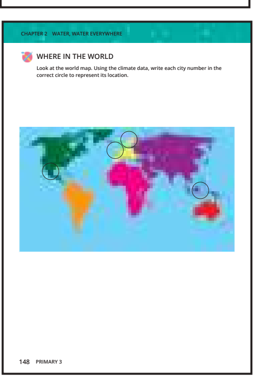
Critical Thinking:

- Explain thinking processes.

Learn (90 minutes)

Directions





1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we learned about factors that impact climate. Turn to a Shoulder Partner and share two factors that impact a region's climate.

 **STUDENTS DO:** Share with partner.

2. TEACHER DO: Have a large world map displayed at the front of the room. Hand out student books.

TEACHER SAY: Today we are going to be climate detectives. Let's see if we can put together all of our learning about climate to figure out where cities in our world are located if we only have their climate data. Turn to the page in your student book titled Climate Data. What do you see?

TEACHER DO: Call on two or three students to describe the information provided on the page.

TEACHER SAY: Very good. On this page we have tables of climate data from four different cities in the world. Each table is labeled with a city number. Now, turn to the next page titled Where in the World. On this world map you see four circles. Each circle represents the location of one of the cities on the previous page. We will analyze the climate data to see if we can determine where each city is located. Turn back to the data page and read the directions.

 **STUDENTS DO:** Read directions.

TEACHER SAY: First, let's study the data tables with a Shoulder Partner. Consider what you know about the water cycle, equator, and poles as you read the climate data.

 **STUDENTS DO:** Study the climate data.

TEACHER DO: Provide time for students to discuss with a **Shoulder Partner**. Use **Calling Sticks** to have partners share what they learn or can conclude from the data. Students can assume that the temperatures and precipitation numbers represent average amounts.

3. TEACHER SAY: You will continue to work with your Shoulder Partner. One partner should leave the book open to the data tables, and the other partner should turn to the next page, Where in the World.



READ ALOUD: Look at the world map. Using the climate data, write each city number in the correct circle to represent its location. Be prepared to support your answers.

TEACHER SAY: Discuss your answers with your Shoulder Partner. Start by recording answers in one student book, then your partner can copy those answers once you finish.



STUDENTS DO: Record where each city is located on the map.



TEACHER DO: As students work, circulate around the room, asking students to explain their choices. Remind students to think about location in terms of proximity to large bodies of water and proximity to the equator. Ask students to provide evidence from the data to support answers. This is an opportunity for students to practice the Life Skill: Critical Thinking.

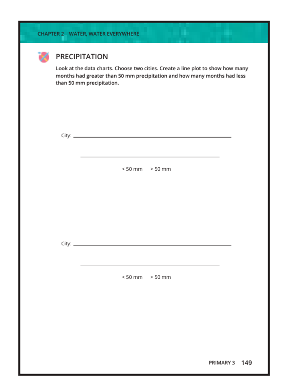
4. TEACHER DO: Bring the class back together. Have a large world map displayed at the front of the room. Put students into groups of four to six.

TEACHER SAY: Let's share where we have concluded each city is located. Make sure you are supporting your answer with evidence from the data and from what we have learned about factors that impact climate. As a group, come to a consensus for each city location. We will use the strategy Numbered Heads to share our answers.

TEACHER DO: Provide students time to discuss final answers in groups. As you use the strategy **Numbered Heads**, ask students to provide evidence to support answers. Once the class has reached a consensus for a city, show the actual location on a map.



STUDENTS DO: Collaborate to come to a consensus on each city's location.



CHAPTER 2 WATER, WATER EVERYWHERE

PRECIPITATION

Look at the data charts. Choose two cities. Create a line plot to show how many months had greater than 50 mm precipitation and how many months had less than 50 mm precipitation.

City: ____________________

< 50 mm > 50 mm

City: ____________________

< 50 mm > 50 mm

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5. TEACHER SAY: I am impressed at how well you located each city on the map, and how respectfully you discussed answers that differed among your group. There is more we can learn from our climate data. Let's continue analyzing it. This time, we will organize the precipitation data for two of the cities. We will create a line plot to show the number of months that had greater than 50 mm of precipitation, and the number of months that had less than 50 mm of precipitation. Open to the page Precipitation.



READ ALOUD: Look at the data charts. Choose two cities. Create a line plot to show how many months had greater than 50 mm precipitation and how many months had less than 50 mm precipitation.



STUDENTS DO: Create line plots using the data charts.

TEACHER DO: Circulate around the room to offer assistance as students work. This is an opportunity for students to independently practice the math skill of visualizing data. If needed, walk the class through an example pair of cities to demonstrate the steps of how to organize the data into a line plot.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we used climate data to determine a city's location in our world. Imagine that you are an entrepreneur who has designed a new type of umbrella. Which of these five cities would you focus on to advertise and sell your umbrella? Why? Turn to a Shoulder Partner to share.



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Call on two or three students to share answers with the class, prompting each to explain the reasoning behind the choice.

Lesson 7 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Identify water issues that impact Egypt and global communities. • Explain where specific water issues are most likely to occur.	• Drought • Flood	• Research resources for floods and droughts: books, internet resources, images • Student books • Pencils

PREPARATION

Have multiple resources for students to use to research floods and droughts.

LIFE SKILLS

Learn to Work

Collaboration:

- Respect for other opinions.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In the previous lesson, we analyzed a city's weather data to determine where the city was located in the world. Turn to a Shoulder Partner and share evidence you used to determine one city's location.**

 STUDENTS DO: Share with a partner.

2. TEACHER SAY: **So far in this chapter we have been learning a lot about water. We have learned about the water cycle and how it can impact climate in a region. In previous chapters we learned about habitats and how they meet the needs of living organisms such as plants and animals. Let's put these two ideas together. How do you think an area's climate impacts the living organisms in a local habitat?**

 STUDENTS DO: Share ideas.

TEACHER SAY: **We have been studying normal weather patterns. What might happen if there was a change to an area's normal weather pattern? For example, if it rained 5 cm in one day in the desert? Or if it did not rain for a month in a rainforest?**

 STUDENTS DO: Brainstorm ways climate can impact living organisms and habitats.

TEACHER SAY: **Sometimes it helps to think about a small example to understand a bigger one. Imagine a house plant. What do you think will happen if I forget to water the plant for one day? What about two days? What about a whole week? What if I gave the plant too much water one time? What if I gave it too much water several times in a day?**

TEACHER DO: Stop and pause between each question, giving students Think Time. Then call on students to share what they think might happen.

 STUDENTS DO: Discuss impact of various scenarios on the health of a house plant.

TEACHER SAY: **Only forgetting water for one day or watering too much one time would probably be okay. But if the plant had no water for a week or if I kept giving the plant too much water for a week, the plant would not likely survive. These are two water issues that regions can**

face. Too little water over a long period of time is called a DROUGHT. Does anyone know the word for too much water all at once?

 STUDENTS DO: Share ideas.

3. TEACHER SAY: Too much water all at once can cause a FLOOD. Turn to the page Water Issues. On this page you will read two paragraphs. One is about floods and one is about droughts. As you read, look for the effects of these events.

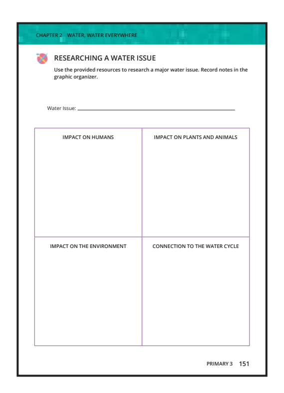
 **READ ALOUD: Read about floods and droughts. Then fill out the cause and effect chart.**

Note to Teacher: You may choose to have students read with a partner or to read aloud to students.

TEACHER SAY: You can also use the images and captions to help learn information to add to your cause and effect chart.

 STUDENTS DO: Read and complete the cause and effect chart.

TEACHER DO: Circulate around the room to assist as students work. Ask students to explain where they found useful information (in the text, image, and caption). Use **Calling Sticks** to have students share information once most are finished.


CHAPTER 2 · WATER, WATER EVERYWHERE

RESEARCHING A WATER ISSUE

Use the provided resources to research a major water issue. Record notes in the graphic organizer.

Water Issue: ____________________

IMPACT ON HUMANS	IMPACT ON PLANTS AND ANIMALS
IMPACT ON THE ENVIRONMENT	CONNECTION TO THE WATER CYCLE

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4. TEACHER SAY: Floods and droughts can both cause serious issues when they occur. We read that floods can contaminate drinking water and droughts can cause a decrease in crops. Both of these impact humans and how we meet our basic needs. Floods and droughts also impact plants and animals and the environment. Let's learn more about the impacts of floods and droughts. Turn to the page Researching a Water Issue.

 **READ ALOUD: Use the provided resources to research a major water issue. Record notes in the graphic organizer.**

TEACHER DO: Either assign students a water issue or allow students to choose. Depending on the resources you have, students can research independently, in partners, or in small groups.

TEACHER SAY: Look at the categories in the graphic organizer before you begin reading. As you research, you are looking for information on how your issue impacts humans, plants and animals, and the environment.

 STUDENTS DO: Research floods or droughts to understand their impact.

TEACHER DO: Provide support as needed while students work independently.

TEACHER SAY: Thank you for working hard on researching your water issue. Now, find a partner who researched a different water issue. So, if you researched floods, find a partner who researched droughts. Once you are with a partner, share what you learned. Read through your graphic organizers. Listen for how the impacts are similar and different.

 STUDENTS DO: Share research information with a partner.

5. TEACHER SAY: Thank you for sharing. I wonder if there are areas or habitats where a flood or a drought would be more likely. Let's consider what we learned in our last chapter. Who remembers the different habitats we studied?

 STUDENTS DO: Share a habitat previously studied.

TEACHER SAY: In our last chapter we learned about different habitats. We studied rainforest, wetland, grassland, and polar habitats. Turn to a Shoulder Partner and share what you remember about each of these habitats. If necessary, you can look back in your student book.

 STUDENTS DO: Review habitats with **Shoulder Partner**.

TEACHER DO: Provide time for students to review and discuss each habitat with a **Shoulder Partner**.

TEACHER SAY: Let's make connections between what we are learning and what we already know. Which habitat do you think would be most likely to experience flooding? Droughts?

TEACHER DO: Provide **Think Time** before calling on students to share responses. Ask students to explain the reasoning behind answers.

TEACHER SAY: Let's record our thinking in our student books. Turn to the page Floods and Droughts.



READ ALOUD: Make a claim about where these water issues might occur. Use evidence to support your answer.



STUDENTS DO: Record claims with evidence.



TEACHER DO: After students finish working, call on several students to share claims. Ask other students if they agree or disagree and why. This should be an ongoing class discussion with students sharing ideas and supporting evidence. This is an opportunity for students to practice the Life Skill: Collaboration, as well as an opportunity to reinforce the speaking and listening skills of building from others' ideas.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We learned about water issues that might impact our environment and other environments around the world. Some of the water issues might not impact all areas of our world. Why do you think it is important for us to understand these water issues even if they might not affect us? Think about jobs you might have when you grow up. What would a zoologist, architect, or farmer need to understand these issues?

TEACHER DO: Pause as you ask each question to provide **Think Time** and take student responses.



STUDENTS DO: Share answers.

Lesson 8 Overview

LEARNING OUTCOMES

Students will:
- Research a specific region's climate.
- Record and organize notes from research.

PREPARATION

Compile a set of books and other print or computer resources if available so that students can conduct research on specific regional climates that represent polar, tropical rainforest, grassland, and wetland habitats.

KEY VOCABULARY

- Requirement

MATERIALS

- Books and/or computer resources, if available
- Dice (optional)
- Student books
- Pencils

LIFE SKILLS

Learn to Work

Productivity:
- Create a list of tasks to be accomplished, including setting alternative plans.

Learn to Live Together

Sharing:
- Effective management and organization of tasks.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: Yesterday, we explored how different water issues impact habitats and their living organisms. Turn to a Shoulder Partner and share two ways water can impact us.

 **STUDENTS DO:** Share ideas such as drought and flood with **Shoulder Partner**.

TEACHER SAY: Today we are going to begin working on our Share Project. Our Share Project is to create a museum display about a specific habitat. Habitats exist in various regions around the world. Your display will focus on a region with your assigned habitat. For example, if you are assigned a tropical rainforest habitat, you can choose a region in South America, Asia, Australia or even here in Africa. Our display will communicate information about the region's climate. We will also highlight how the water cycle impacts the region's climate. We will use many different forms of communication in our displays. Let's explore the different ways we can communicate information.

TEACHER DO: Hand out student books.

2. TEACHER SAY: Remember when Rashad and Zeina visited the museum and learned about an oasis? Let's turn back to page Rashad and Zeina Visit a Museum to reread the story. Pay close attention to the details given about the museum display.

 **STUDENTS DO:** Reread and review the story.

TEACHER DO: Discuss the elements of the museum display that are described in the story, including the picture, map, artifacts, charts, and verbal descriptions. Prompt students to consider how each of these elements communicate information and why an audience might be interested in each. To extend the conversation:
- Allow students to share experiences visiting museums (if applicable) to highlight the types of displays they remember.

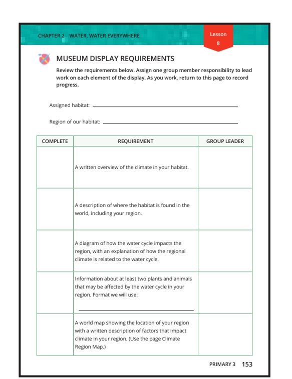
- Ask students to identify how they individually prefer to encounter information. Are they most interested in reading, looking at images, observing 3D objects?

3. TEACHER SAY: **Museum display designers are very thoughtful in planning how best to communicate information. They often choose to communicate in multiple formats to engage and reach people with different interests. In a moment, we will review the requirements for your displays. Before that, let's assign groups and topics for our work.**

TEACHER DO: Divide students into groups of three or four. Assign each group a specific habitat to research: polar, tropical rainforest, grassland, or wetland. Have students move to sit in assigned groups for the remainder of the chapter.

Note to Teacher: You may choose to randomly pull the name of a habitat on a slip of paper out of a container or have students roll a die and match the number on the die to one of the habitats. You may also want to assign a corresponding region if you have multiple groups working on the same habitat.

TEACHER SAY: **Now that we are sitting in our groups, let's review the requirements of your museum display. Who can remind us what the word REQUIREMENT means?**



CHAPTER 2 · WATER, WATER EVERYWHERE

MUSEUM DISPLAY REQUIREMENTS

Review the requirements below. Assign one group member responsibility to lead work on each element of the display. As you work, return to this page to record progress.

Assigned habitat: ___

Region of our habitat: ___

COMPLETE	REQUIREMENT	GROUP LEADER
	A written overview of the climate in your habitat.	
	A description of where the habitat is found in the world, including your region.	
	A diagram of how the water cycle impacts the region, with an explanation of how the regional climate is related to the water cycle.	
	Information about at least two plants and animals that may be affected by the water cycle in your region. Format we will use: ___	
	A world map showing the location of your region with a written description of factors that impact climate in your region. (Use the page Climate Region Map.)	

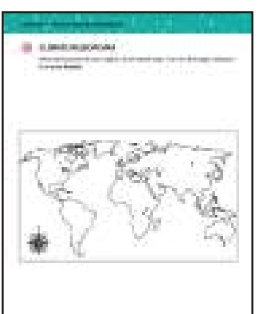
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TEACHER DO: Use Calling Sticks to select a student to respond.

STUDENTS DO: Explain the word REQUIREMENT.

TEACHER SAY: **Turn to the page Museum Display Requirements. The requirements of your display are as follows:**

- **A written overview of the climate in your assigned habitat.**
- **A description of where the habitat is found in the world (including your region).**
- **A diagram of how the water cycle impacts the habitat, with an explanation of how the regional climate is related to the water cycle.**
- **Information about at least two plants and animals that may be affected by the water cycle in your region. [Format to be chosen by student.]**
- **A world map showing the location of your region with a written description of factors that impact climate in your region. Note that for this element, you will use the map found on the page Climate Region Map.**

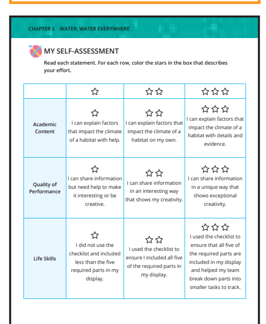


TEACHER DO: Allow time for students to discuss roles in groups and decide which group member will lead the work on each of the four sections of the museum display. Students should all record the assignments in the third column of the table. Emphasize that this group member is not responsible for completing all the work for his or her section, rather he or she will lead, organize, and manage the group's work on this task.



STUDENTS DO: Assign leadership roles in group. (This is a good opportunity to practice the Life Skill: Sharing.)

4. TEACHER SAY: **Before we begin working, let's also review the expectations outlined in our rubric. Turn to the page My Self-Assessment and review the rubric with a Shoulder Partner in your group. Please raise your hand if you have any questions.**



CHAPTER 2 · WATER, WATER EVERYWHERE

MY SELF-ASSESSMENT

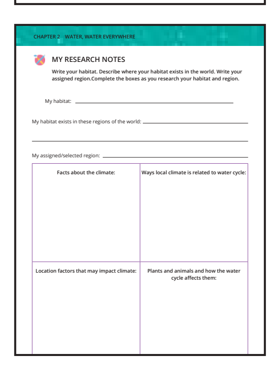
Read each statement. For each row, color the stars in the box that describes your effort.

	☆	☆☆	☆☆☆
Academic Content	☆ I can explain factors that impact the climate of a habitat with help.	☆☆ I can explain factors that impact the climate of a habitat on my own.	☆☆☆ I can explain factors that impact the climate of a habitat with details and evidence.
Quality of Performance	☆ I can share information but need help to make it interesting or be creative.	☆☆ I can share information in an interesting way that shows my creativity.	☆☆☆ I can share information in a unique way that shows exceptional creativity.
Life Skills	☆ I did not use the checklist and included less than the five required parts in my display.	☆☆ I used the checklist to ensure I included all five of the required parts in my display.	☆☆☆ I used the checklist to ensure that all five of the required parts are included in my display and helped my team break down parts into smaller tasks to track.

STUDENTS DO: Review rubric with partner.

TEACHER DO: Answer questions and clarify parts of the rubric as needed.

TEACHER SAY: **In order to create any of these elements of our museum displays, we need to collect information about our assigned habitats and regions. You will have the rest of the time today to research your region and plan your museum display. Use the graphic organizer on the page, My Research Notes to organize your notes.**



CHAPTER 2 · WATER, WATER EVERYWHERE

MY RESEARCH NOTES

Write your habitat. Describe where your habitat exists in the world. Write your assigned region. Complete the boxes as you research your habitat and region.

My habitat: ___

My habitat exists in these regions of the world: ___

My assigned/selected region: ___

Facts about the climate:	Ways local climate is related to water cycle:
Location factors that may impact climate:	**Plants and animals and how the water cycle affects them:**

READ ALOUD: **Write your habitat. Describe where your habitat exists in the world. Write your assigned region. Complete the boxes as you research your habitat and region.**

STUDENTS DO: Conduct research, organize tasks, and record information in graphic organizer provided.



TEACHER DO: As you circulate around the room, prompt students to organize their research and record progress. At this point in the year, students should be able to divide up some of the work but may need task organization help from you. Perhaps brainstorm as a class the kinds of roles each group might need, and then allow students to choose roles and select members to take on different responsibilities. Another option is to discuss responsibilities as a class, then allow students to create their own roles and assignments in groups. This is a good opportunity to practice the Life Skill: Productivity.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: As I glanced around the room at the notes you were taking, I am impressed by how much you learned today. I am curious if anything that you read today surprised you. Turn to your Shoulder Partner and share something unexpected in your research today.



STUDENTS DO: Share unexpected findings from research with a **Shoulder Partner** in the small group.

Lesson 9 Overview

LEARNING OUTCOMES

Students will:
- Collaboratively plan elements of a museum display.
- Build a museum display using researched information.

PREPARATION

Students should be seated in working groups for the entire lesson.

KEY VOCABULARY

- Culture
- Mosaic

MATERIALS

- Art supplies, such as drawing paper, glue, scissors, markers, crayons
- Student books
- Pencils

LIFE SKILLS

Learn to Live Together	Learn to Be
Sharing: • Effective management and organization of tasks.	Self-Management: • Review progress in realizing goals.



Share (90 minutes)

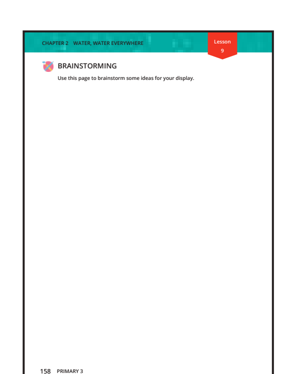
Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In our previous lesson, we researched our assigned regions to gather information for a museum display. Turn to a Shoulder Partner and share ideas about why simply taping our research notes to a wall would not be a good communication strategy for our museum displays.**

 STUDENTS DO: Share ideas with **Shoulder Partner**.

2. TEACHER SAY: **Today you will make your research come alive as you create an interesting museum display. You have an opportunity to be creative in how you choose to display your information. One interesting idea I have seen in a museum is a board with flaps that can be lifted to read facts about different topics. You may also add objects to make your display more interesting. We will be presenting the displays tomorrow. If, for example, if you researched a polar region and you have a toy polar bear at home that you want to put with your display, you may do that.**



CHAPTER 2 WATER, WATER EVERYWHERE — Lesson 9

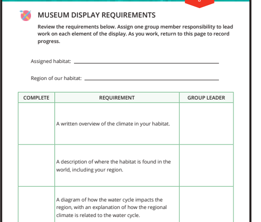
BRAINSTORMING

Use this page to brainstorm some ideas for your display.

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TEACHER DO: Hand out student books.

TEACHER SAY: **We will begin our work today Brainstorming in groups about how to turn the notes we recorded yesterday into interesting displays. Open your student books to the page Brainstorming.**



CHAPTER 2 WATER, WATER EVERYWHERE — Lesson 8

MUSEUM DISPLAY REQUIREMENTS

Review the requirements below. Assign one group member responsibility to lead work on each element of the display. As you work, return to this page to record progress.

Assigned habitat: ____________

Region of our habitat: ____________

COMPLETE	REQUIREMENT	GROUP LEADER
	A written overview of the climate in your habitat.	
	A description of where the habitat is found in the world, including your region.	
	A diagram of how the water cycle impacts the region, with an explanation of how the regional climate is related to the water cycle.	
	Information about at least two plants and animals that may be affected by the water cycle in your region. Format we will use: ____________	
	A world map showing the location of your region with a written description of factors that impact climate in your region. (Use the page Climate Region Map.)	

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 READ ALOUD: **Use this page to brainstorm some ideas for your display.**

STUDENTS DO: **Brainstorm** ideas for making the museum display interesting.

TEACHER SAY: **I am so glad you have thought of some clever ideas. Now it is time to create your displays. You will have the rest of today's lesson to complete your display. This will require you to organize your tasks and take turns leading your assigned sections. Do not forget that the Museum Display Requirements page can be a helpful tool for staying organized and tracking your progress.**

 Sharing



 **STUDENTS DO:** Work in groups to create museum displays. (This is an opportunity for students to practice the Life Skills: Sharing and Self-Management.)

TEACHER DO: Provide drawing paper, markers, crayons, scissors, glue, and other art supplies available to students. Circulate around the room as students work to encourage, prompt, and motivate groups to stay focused and on task. Encourage students to divide up the work. For example, students who like to draw can work on the water cycle diagram while students who enjoy writing can work on descriptions. Set a timer for 15-minute increments to periodically check in with the class. Ask students if they have all the materials they need, ask if everyone is contributing to the work, and ask students if the display would capture someone's attention. If needed, provide more structure for the work time, such as instructing students to work on a specific section with each 15-minute increment.

3. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we created museum display boards to share our information. Why do you think people visit museums? What makes a display interesting?

TEACHER DO: Use **Calling Sticks** to select several students to respond.

 **STUDENTS DO:** Share ideas with the class.

Lesson 10 Overview

LEARNING OUTCOMES	MATERIALS	PREPARATION
Students will: • Present museum displays. • Record information from student displays. • Make comparisons between habitats.	• Student books • Pencils • Group displays	You may wish to invite community members or another class to the presentations.

LIFE SKILLS

Learn to Be

Communication:

- Reading, writing, nonverbal communication skills.



Share (90 minutes)

Directions

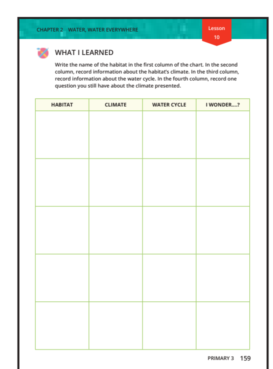
1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In the previous lesson, we collaborated to create museum displays. Please move into your groups and review the information on your display.**



STUDENTS DO: Move into groups to prepare for presenting today.

2. TEACHER SAY: **Today we will set up our water and habitat museum. In order to facilitate sharing, we will have half of the group stay at the display to present and half of the group rotate to each display. If you are visiting other displays and listening, you will record water cycle and climate information onto the chart in your student book. Once we complete one round, we will switch roles.**



TEACHER DO: If needed, provide students time to write notes or a script for what each group member will say to present elements of the display.

TEACHER SAY: **Let's look at where you will record what you learn today. Turn to the page What I Learned.**



READ ALOUD: **Write the name of the habitat in the first column of the chart. In the second column, record information about the habitat's climate. In the third column, record information about the water cycle. In the fourth column, record one question you still have about the climate presented.**

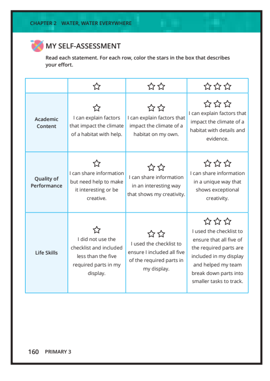


TEACHER DO: Divide student groups into two groups, group A and group B. Group A will stay at the display to present first. Group B will move to neighboring display to listen. Provide time for groups to share before rotating groups to the next display. Continue until group B has visited each display. Then switch the student groups, so group B stays to present, and group A rotates to each display around the room. This is a good opportunity to practice the Life Skill: Communication.

TEACHER SAY: **Remember, as you visit each display, record what you learn in your student book. We will share as a group at the end of the day.**



STUDENTS DO: Present, listen to presentations, and record notes.



CHAPTER 2 WATER, WATER EVERYWHERE

MY SELF-ASSESSMENT

Read each statement. For each row, color the stars in the box that describes your effort.

	☆	☆☆	☆☆☆
Academic Content	☆ I can explain factors that impact the climate of a habitat with help.	☆☆ I can explain factors that impact the climate of a habitat on my own.	☆☆☆ I can explain factors that impact the climate of a habitat with details and evidence.
Quality of Performance	☆ I can share information but need help to make it interesting or be creative.	☆☆ I can share information in an interesting way that shows my creativity.	☆☆☆ I can share information in a unique way that shows exceptional creativity.
Life Skills	☆ I did not use the checklist and included less than the five required parts in my display.	☆☆ I used the checklist to ensure I included all five of the required parts in my display.	☆☆☆ I used the checklist to ensure that all five of the required parts are included in my display and helped my team break down parts into smaller tasks to track.

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3. TEACHER SAY: Great job sharing and learning from each display in the room. Now turn in your student book to the page My Self-Assessment so we can complete our rubric.

TEACHER DO: Read through the self-assessment as a class, then provide students time to complete independently.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: In this chapter we learned factors that impact a region's climate. We were able to extend that information to the habitats we had previously studied. Let's share similarities and differences we learned between the habitats, specifically thinking about water cycle, climate, and water issues.

TEACHER DO: Use **Calling Sticks** to have students share similarities and differences using the notes they took during the lesson.

Rubric Assessment (for teacher use)

	Approaching Expectation (1)	Meeting Expectation (2)	Exceeding Expectation (3)
Academic Content	Describes most stages of the water cycle while identifying the states of matter throughout with support from peers or the teacher. *Science B.1.c.*	Describes all stages of the water cycle while identifying the states of matter throughout. *Science B.1.c.*	Describes all stages of the water cycle while identifying the states of matter throughout. Includes variations found in different climates. *Science B.1.c.*
	Explains the factors that contribute to the climate of a given habitat with support from peers or the teacher. *Science B.1.d, e.*	Explains the factors that contribute to the climate of a given habitat. *Science B.1.d, e.*	Explains the factors that contribute to the climate of a given habitat in detail. *Science B.1.d, e.*
	Uses a map to identify the location of a habitat with support from peers or the teacher. *Social Studies C.1.b. and c*	Uses a map to correctly identify the location of a habitat and nearby bodies of water. *Social Studies C.1.b. and c*	Uses a map to correctly identify the location of a habitat and nearby bodies of water. Explains the connection between geography and climate. *Social Studies C.1.b. and c*
	Expresses some understanding of the content when working with peers. May include inaccurate information or need support to explain. *Speaking and Listening A.2.a.*	Expresses accurate understanding of the content when working with peers. *Speaking and Listening A.2.a.*	Expresses an exceptional understanding of the content when working with peers. Supports the learning of others. *Speaking and Listening A.2.a.*
Quality of Performance	Creates an accurate diagram of the water cycle with support from peers or the teacher.	Creates an accurate diagram of the water cycle.	Creates an accurate and detailed diagram of the water cycle.
	Supports the creativity of peers when creating a museum display but may need support to contribute ideas.	Shows creativity when creating a museum display with peers.	Shows exceptional creativity and contributes unique ideas when creating a museum display with peers.
Life Skills	Contributes to group work with guidance from peers or the teacher. *Sharing and Self-Management*	Contributes to group work by taking on tasks that match personal strengths. *Sharing and Self-Management*	Contributes to group work by taking on tasks that match personal strengths. Takes on a leadership role and helps organize the group. *Sharing and Self-Management*
	Accepts the ideas and opinions of others while collaborating. May need support responding respectfully. *Collaboration*	Accepts the ideas and opinions of others by collaborating respectfully. *Collaboration*	Accepts the ideas and opinions of others by collaborating respectfully. Shows leadership in this area by modeling respect for others. *Collaboration*

PRIMARY 3

Multidisciplinary

THE WORLD AROUND ME

TAKING CARE OF OUR WORLD

Chapter 3: How Can I Help?

Chapter Overview

How Can I Help?

COMPONENT	DESCRIPTION	LESSONS
Discover	Students discover the impact flooding can have on a community. Students describe people in the community who help make a difference and contribute toward bettering the community. Students discover ways they can be involved in local government.	3
Learn	Students learn how the past has impacted the local community. Students describe how jobs can contribute to the local community and protect the community's environment. Students explore the role technology can play in local jobs and how technology can impact the environment.	4
Share	Students apply the engineering design process to create an effective flood barrier to minimize flooding damage.	3

Connection to Issues



Environment and Development: Our earth and environment need to be sustained. We can appreciate and care for the environment as a community.

Citizenship: We belong. We are part of a human family. We all have needs and we all have responsibilities.

Life Skills Addressed



DIMENSION	DESCRIPTION
Learn to Know	**Critical Thinking:** • Identify subject/topic-related information. • Explain thinking processes. **Problem-Solving:** • Collect problem-related data.
Learn to Work	**Collaboration:** • Respect for other opinions. **Decision-Making:** • Identify results and expected results. **Productivity:** • Create a list of tasks to be accomplished, including setting alternative plans.
Learn to Live Together	**Respect for Diversity:** • Solicit and respect multiple and diverse perspectives to broaden and deepen understanding. **Sharing:** • Effective management and organization of tasks.
Learn to Be	**Self-Management:** • Review progress in realizing goals. **Communication:** • Reading, writing, non-verbal communication skills.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

D. Reading Skills: Fluency

1.b. Read to express the meaning and style of a text, (interrogative, exclamation, imperative).

E. Reading Comprehension: Literature

1.b. Describe and compare characters in a story (such as their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.
4.b. Identify the main ideas and sub-ideas in a paragraph.

F. Reading Comprehension: Informational Text

1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
2.a. Identify the main idea of a text; recount the key details and explain how they support the main idea.
3.a. Answer questions about the relationship between a series of events, ideas, or steps in a procedure in a text, using language that pertains to time, sequence, and cause/effect.
4.a. Ask and answer questions to define the meaning of academic and subject-specific words and phrases.
5.b. Use visual representations and information contained in a text to describe its basic ideas.
5.c. Identify the main ideas and sub-ideas in a paragraph.
8.a. Read and comprehend informational text at the appropriate difficulty level for Primary 3.

G. Language: Vocabulary Acquisition and Use

1.d. Convert negative sentences into positive ones and vice versa.

WRITING:

A. Foundational Skills

1.a. Write complete sentences using punctuation, prepositions, and coordinating conjunctions (such as و, ثم, ف) as appropriate.
1.b. Write words and sentences, considering the size of the letters and the spaces between words and sentences.

B. Narrative

1.a. Write narratives to express real or imagined experiences or events, using descriptive details and clear event sequences.
1.c. Use dialogue and descriptions of actions, thoughts, and feelings to express experiences and events or show the response of characters to situations.
1.e. Provide a sense of closure.

D. Process, Production, and Research

2.b. Participate in collaborative research.
3.a. Research a specific topic or question using a variety of resources.

SPEAKING AND LISTENING:

A. Foundational Skills

1.a. Engage effectively in a range of collaborative discussions with peers and adults in small and larger groups.
1.c. Listen to the speaker with interest and attention until the end of the statement or story.
1.d. Summarize and determine the main ideas and supporting details of a text that has been read aloud.
1.e. Listen to speakers in order to make connections; comprehend; and gain, clarify, or deepen understanding of a topic or issue.
1.f. Build on others' ideas in discussion and express own ideas clearly.
2.a. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details.
4.a. Speak clearly and at an understandable pace with appropriate tone, gestures, and body language.
5.a. Speak in complete sentences, following grammatical rules, in order to provide requested detail or clarification.

SCIENCE:

B. Earth and Space

1.f. Distinguish between various natural water issues that impact local and global communities (such as flooding, drought, seasonal changes).
1.g. Design a solution for a local water issue.

D. Physical Science

1.a. Test the properties of various materials.
1.b. Analyze the suitability of various materials for an intended purpose.

F. Engineering and Design Process

1.a. Explain the characteristics and scope of technology, with support.
1.b. Explain the role of society in the development and use of technology, with support.
1.c. Make use of troubleshooting, research and development, invention, and experimentation in problem solving, with support.
1.d. Explain the importance of engineering design, with support.
1.e. Apply the design process, with modeling and support.

SOCIAL STUDIES:

A. Citizenship

1.a. Identify local government structures and leaders and their functions.
1.c. Explain how individual citizens can get involved in local government (such as voting).
1.e. Describe the actions of people who have made a positive difference in their community (such as community and civic leaders).

1.f. Identify opportunities for student participation in local or regional issues.

B. Historical Thinking and Knowledge

2.c. Describe how an event, person, or institution from the past contributed to developing the local community (such as heritage industries, local businesses, architecture, place or street names, and so on).

C. Understanding the World from a Spatial Perspective

2.b. Describe how people in different regions of the world modify the environment to meet changing needs for transportation, shelter, and lifestyle.

D. Human Systems

1.b. Explain why people must make economic choices.

VISUAL ART:

A. Producing Visual Art

2.a. Create works of art using age-appropriate tools (such as paint and repurposed materials).
2.c. Add details to a work of art to enhance what is communicated.

B. Presenting Visual Art

1.c. Create and explain works of art that express content learned in other curricular areas.

DRAMA:

B. Plays

1. Create roles, imagined worlds, and improvised stories in the form of a skit or play.

C. Acting

2. Collaborate to determine how characters might move and speak to support a role or plot line.

ECONOMICS AND APPLIED SCIENCES:

A. Family Relationships and Safety in the Community

1.b. Demonstrate how to seek the help of trusted adults in making decisions and solving problems.

B. Childhood Development

1.a. Analyze personal changes in knowledge, skills, or abilities associated with growth.

D. Managing Individual and Family Resources and Rationing Consumption

1.a. Classify the types of economic decisions that individuals and families make.
1.b. Describe the impact of economic decisions on various family members.

VOCATIONAL FIELDS:

A. Career Social Skills and Preparation

1.a. Identify and demonstrate good interpersonal skills at school and home (including in different vocational activities).
1.b. Work cooperatively with a group of students to accomplish a task (including tasks related to vocations).
1.e. Identify the physical locations of various jobs.
4.c. Collect information on how local occupations contribute to the community and protect and conserve the environment.

INFORMATION AND COMMUNICATION TECHNOLOGIES:

A. Essential Concepts and Processes

1.b. Explain simple fundamental concepts in computer technology (such as operating systems and network systems).
1.c. Explain how digital technologies can improve and develop how we live and work (such as through organization, time management, and communication tools).

COMPUTATIONAL THINKING:

Life Skills:

Decision Making: Identify results and expected results.

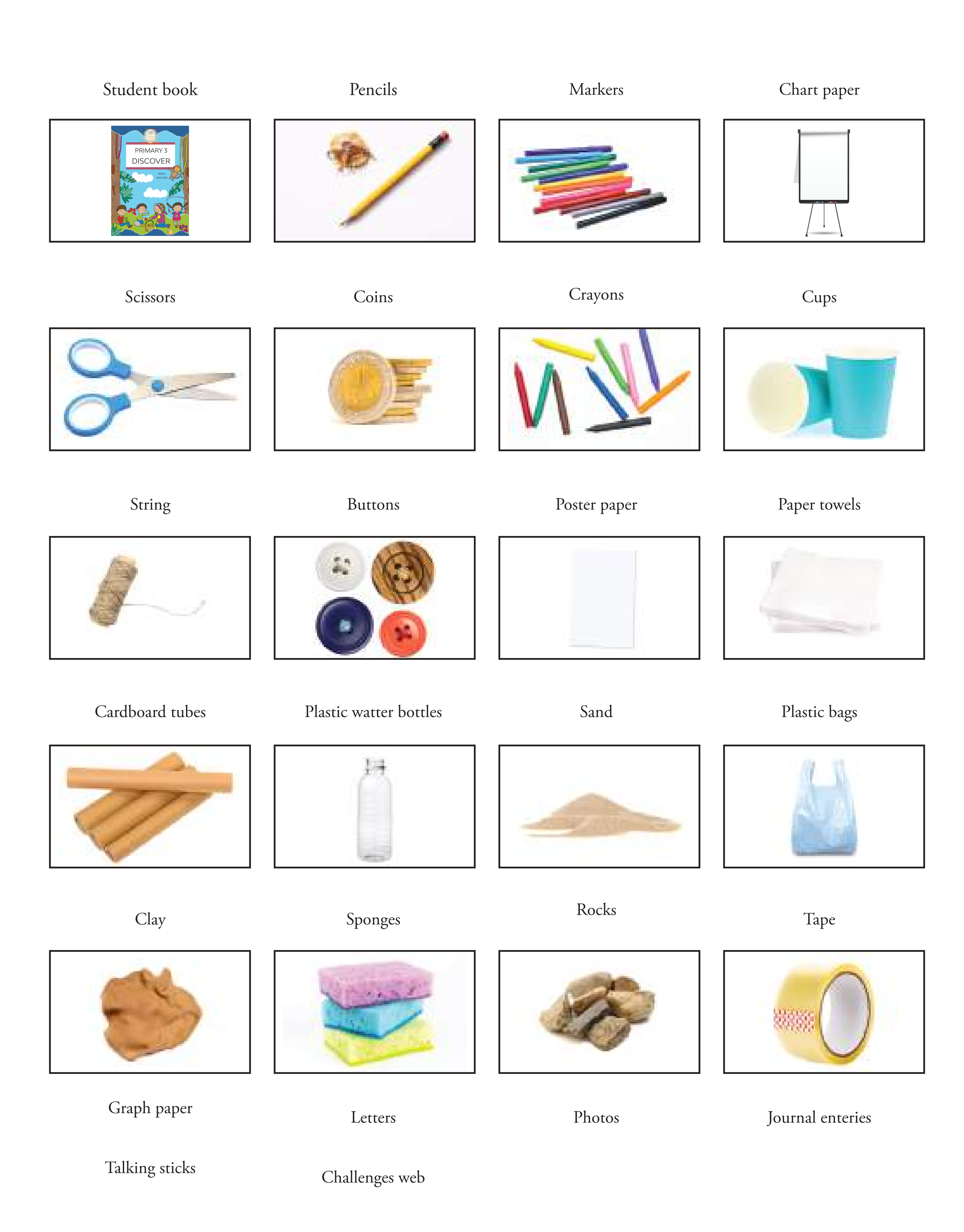
Science:

A.1.c Represent data in tables to reveal patterns.

CH 3 Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	DISCOVER: **Students will:** • Describe (immediate) impacts of flooding on a local community. • Discover ways communities work to prevent flooding.
2	DISCOVER: **Students will:** • Identify ways to positively impact the local community through volunteering. • Indentify the role of some national ministries • Explore the practice of voting.
3	DISCOVER: **Students will:** • Describe themselves as leaders. • Collaborate to discuss flood prevention methods. • Describe how jobs positively contribute to the community.
4	LEARN: **Students will:** • Analyze traits of popular leaders and describe characteristics of good leaders. • Research how past people and events have impacted the local community. • Act out an interview between a reporter and a historical leader.
5	LEARN: **Students will:** • Communicate environmental needs of the local community. • Explain how people can help protect the environment.
6	LEARN: **Students will:** • Describe how technology has contributed to environmental protection.
7	LEARN: **Students will:** • Use coding to create a drone scanning map of a flooded area in Alexandria.
8	SHARE: **Students will:** • Apply knowledge to plan effective flood barriers. • Analyze material choices. • Apply the engineering design process to collaborate to solve a problem.
9	SHARE: **Students will:** • Collaborate to create effective flood barriers. • Test performance of flood barriers.
10	SHARE: **Students will:** • Redesign flood barriers based on test performance. • Explain choices made in redesign. • Communicate learning to the community.

Materials Used



Lesson 1 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Describe (immediate) impacts of flooding on a local community. • Discover ways communities work to prevent flooding	• Flood • Impact	• Student books • Pencils

LIFE SKILLS

Learn to Know	Learn to Work
Critical Thinking: • Identify subject/topic-related information.	Decision-Making: • Identify results and expected results.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter.

TEACHER SAY: We are starting a chapter called "How Can I Help?" Let's see if we can work together to discover what we will be learning together in this chapter. You are going to observe a picture. The picture you will see is zoomed in. That means it is a close up of only one part of a bigger picture. Open your books to the page What Do You Think? Consider what you think the whole picture would show if you could see it. Share your ideas with a Shoulder Partner.



READ ALOUD: Study the picture below. Look for clues to help you predict what we will learn in this chapter.



TEACHER DO: Provide students with quiet **Think Time** to observe the picture. Then, have students share predictions with a **Shoulder Partner**. Ask students to explain why they are making certain predictions. After students have time to share, use **Calling Sticks** to have a few students share predictions with the whole class. This is an opportunity for students to practice the Life Skill: Critical Thinking.



STUDENTS DO: Observe the image and make predictions with **Shoulder Partner**.

TEACHER SAY: I heard many great guesses that were supported by clues in the picture. [Provide examples from student predictions.] Let's turn to the next page, We Will Study..., to see the whole picture. What do you see? Whisper to a person next to you what we will be studying.



READ ALOUD: Observe the image for information about the topic for this chapter.



STUDENTS DO: Whisper observations about the picture.

2. TEACHER SAY: Yes, we will be studying floods and flooding. In our previous chapter we began learning about the importance of water in different environments. We began learning about water issues, such as floods and droughts. We considered how water issues might change an environment or habitat. Let's get our brains thinking about what we remember about floods. On the lines below the picture, write one sentence stating a fact you remember about floods.

 STUDENTS DO: Write one fact about floods.

TEACHER DO: After students finish writing, use the strategy **Hands Up, Pair Up** to facilitate students moving around to share with multiple partners. As students talk, make note of possible misconceptions students have about floods.

 STUDENTS DO: Share flood facts with multiple partners.

3. TEACHER SAY: **In this chapter, we will be thinking about how communities work to solve water issues, such as flooding, and how we can help. For this chapter, in our Share Project, you will be collaborating to create a way to help prevent extreme damage from flooding. Let's begin learning with a story about our friends Rashad and Zeina. Remember, they live in Alexandria, which is on the coast of the Mediterranean Sea. Do you think this community might experience flooding? Why or why not?**

TEACHER DO: Use **Calling Sticks** to choose two or three students to answer. Prompt students to explain reasoning for answers.

 STUDENTS DO: Share ideas.

TEACHER SAY: **As we read, think about what impacts flooding has on the community. Turn to the page Alexandria Floods.**

 READ ALOUD: **Read the story with a partner.**

Note to Teacher: You may also read the short story aloud, pausing to identify examples of how the floods discussed impact the community.



TEACHER SAY: **As we read, I noticed examples of how the flood negatively affected both members of the community and the environment in Alexandria. It is important for us, as we begin our study of how we can help our community, to understand the impacts a flood can have on every part of a community—people and environment. Turn to the page Identifying Impacts. What do you see on this page?**

STUDENTS DO: Share observations.

TEACHER SAY: **How do you think this T-Chart can help us organize what we have learned?**

 STUDENTS DO: Share ideas.



TEACHER SAY: **We can organize the effects of a flood by determining whether the effect impacts people or the environment. Understanding the different effects will help us think about how we can help. Throughout the chapter, we can come back to this page to record what we are learning.**

 READ ALOUD: **Record the impacts of flooding that you read about in the story. Add other impacts that you can recall from previous learning.**

TEACHER SAY: **Let's start by thinking about what we just read in our story. I heard a character say that her uncle's home was destroyed by the flood. This is an impact to a person in the community, so I can write that on this side of the T-Chart. Who can find a description of an impact on the environment?**

 STUDENTS DO: Identify a description of an impact on the environment (the canal banks being broken down or part of the beach being washed away).

TEACHER SAY: **Continue adding to the chart with a Shoulder Partner. Then we can share as a whole class.**

 STUDENTS DO: Record flood impacts on the **T-Chart**.

TEACHER DO: Use **Calling Sticks** to have students identify impacts to both people and the immediate environment. Encourage students to add other known or reasoned effects, such as

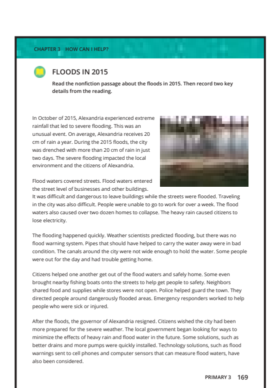


animal populations moving away. This is an opportunity for students to practice the Life Skill: Collaboration.

4. TEACHER SAY: **Our characters are from Alexandria. We just read a story that mentioned flooding in Alexandria. In fact, Alexandria did experience extreme flooding in October and November in 2015. We can also read a nonfiction passage to learn more information about the impacts on the citizens of Alexandria and its environment. Who can tell us some differences between stories and informational texts?**

 STUDENTS DO: Share ideas.

Note to Teacher: Be sure to address the misconception that fiction is always "not true" and nonfiction is "true." Historical fiction or stories that refer to true past events can play an important role in learning about those events, at the same time that they imagine how non-real characters might have responded to a given event.


CHAPTER 3 HOW CAN I HELP?

FLOODS IN 2015

Read the nonfiction passage about the floods in 2015. Then record two key details from the reading.

In October of 2015, Alexandria experienced extreme rainfall that led to severe flooding. This was an unusual event. On average, Alexandria receives 20 cm of rain a year. During the 2015 floods, the city was drenched with more than 20 cm of rain in just two days. The severe flooding impacted the local environment and the citizens of Alexandria.

Flood waters covered streets. Flood waters entered the street level of businesses and other buildings. It was difficult and dangerous to leave buildings while the streets were flooded. Traveling in the city was also difficult. People were unable to go to work for over a week. The flood waters also caused over two dozen homes to collapse. The heavy rain caused citizens to lose electricity.

The flooding happened quickly. Weather scientists predicted flooding, but there was no flood warning system. Pipes that should have helped to carry the water away were in bad condition. The canals around the city were not wide enough to hold the water. Some people were out for the day and had trouble getting home.

Citizens helped one another get out of the flood waters and safely home. Some even brought nearby fishing boats onto the streets to help get people to safety. Neighbors shared food and supplies while stores were not open. Police helped guard the town. They directed people around dangerously flooded areas. Emergency responders worked to help people who were sick or injured.

After the floods, the governor of Alexandria resigned. Citizens wished the city had been more prepared for the severe weather. The local government began looking for ways to minimize the effects of heavy rain and flood water in the future. Some solutions, such as better drains and more pumps were quickly installed. Technology solutions, such as flood warnings sent to cell phones and computer sensors that can measure flood waters, have also been considered.

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TEACHER SAY: **Turn to the next page, Floods in 2015. I will read the passage aloud once through. Listen carefully, then we will look at one section more closely.**

TEACHER DO: Read the entire passage aloud.

Note to Teacher: This text is written in the style of and sourced from multiple newspaper articles from the time of the flooding. It is likely difficult for students to read given its length and vocabulary. However, it is important for students to be exposed to texts just beyond current reading levels so that they can learn to decode as much as possible. Use this as an opportunity to encourage close listening.

TEACHER SAY: **Good readers and listeners are able to identify key details about the main topic of a text. The main topic of this reading is the impacts of severe flooding in Alexandria. Let's look specifically at one paragraph and find its main topic and key details. Please place your finger on the paragraph that begins, "Citizens helped one another." Check your neighbor's finger placement to see if you have both found the correct paragraph.**

 STUDENTS DO: Identify the correct paragraph and confirm choice with neighbor.

TEACHER SAY: **Read this paragraph again with your Shoulder Partner. See if you can identify the main idea of the paragraph and two key details that support the topic. Record those key details on the chart provided on the next page.**

 STUDENTS DO: Re-read the paragraph and complete the graphic organizer.

TEACHER DO: After students finish, go over the identified main ideas and key details as a class. Note to students that descriptions of the main idea should be similar, but that many details are given, so student answers may vary.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: **Today we identified how a community was impacted by the flood. In this chapter, we will also be learning about how communities respond to events such as floods. Did you hear examples of how people responded in our story or in the nonfiction reading?**

TEACHER DO: Call on students to share responses they heard from the community. Examples include: Zeina's uncle having to move, people helped others get home using boats, police protected the town.

 STUDENTS DO: Share ideas.

TEACHER SAY: **We will continue studying how communities are impacted and how communities respond to severe changes in the environment.**

Lesson 2 Overview

LEARNING OUTCOMES

Students will:
- Identify ways to positively impact the local community through volunteering.
- Indentify the role of some national ministries.
- Explore the practice of voting.

PREPARATION

Prepare a **Web** with the word "Challenges" written in the center. Also gather local volunteer opportunities to discuss with students.

KEY VOCABULARY

- Volunteer

LIFE SKILLS

Learn to Be

Self-Management:
- Review progress in realizing goals.

MATERIALS

- Student books
- Pencils
- Resources for job research
- Challenges **Web**



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

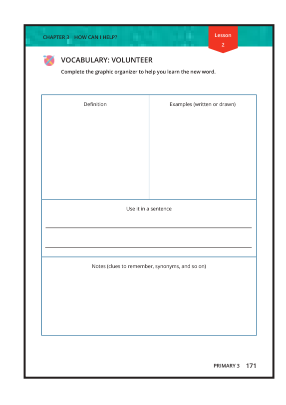
TEACHER SAY: **In our previous lesson, we talked about how the people and environment in a community can be impacted by a flood. Turn and talk to a Shoulder Partner about one impact you remember.**

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.

 STUDENTS DO: Turn and talk to a partner.

2. TEACHER SAY: **Today we will begin exploring ways that all citizens can work to help their community. Even you, as a child in the community, have the ability to help. Have you ever heard the word VOLUNTEER? How have you heard it used, or what experience do you have with the word?**

TEACHER DO: Provide **Think Time**, then use **Calling Sticks** to have students share prior knowledge or experience of the word VOLUNTEER.



CHAPTER 3 HOW CAN I HELP? Lesson 2

VOCABULARY: VOLUNTEER

Complete the graphic organizer to help you learn the new word.

Definition	Examples (written or drawn)

Use it in a sentence

Notes (clues to remember, synonyms, and so on)

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TEACHER SAY: **Turn to the page Vocabulary: Volunteer in your student book. Let's define the word on the vocabulary page.**

 READ ALOUD: **Complete the graphic organizer to help you learn the new word.**

 STUDENTS DO: Complete the vocabulary page.

TEACHER DO: Guide students through the vocabulary page. You may choose to complete as a whole class, in small groups, or individually. After students have worked together to define the new word, provide a succinct definition and further discuss the word as suggested below.

TEACHER SAY: **When you volunteer, you are helping others without being paid. This is different than a job. When you have a job, you are expected to perform work and you are paid for the work. When you volunteer, you can choose different activities do and you are not paid money**

for your work. You volunteer in order to help your community and to help people in need. Has anyone ever volunteered before? Or seen their family members volunteer?

 STUDENTS DO: Share ideas and experiences.

TEACHER DO: Call on students to share prior experiences. Make note of your students' familiarity with volunteering. Provide examples of your own experiences with volunteering in the local community

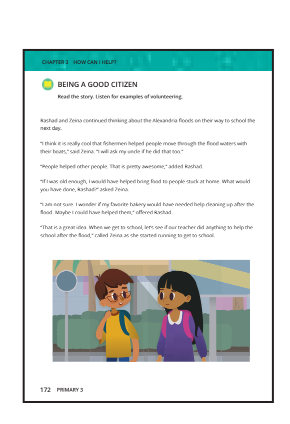
Note to Teacher: If applicable, mention volunteer opportunities that are available at school or in the local community.

TEACHER SAY: **When you volunteer, you are showing good citizenship. Has anyone ever [example of a volunteer opportunity in the community]? Sometimes volunteering happens at an organized event. Sometimes it is spontaneous when a need is seen. Did you know there are opportunities for you to volunteer to help have a positive impact on our community?**

Some examples include:

- **Cleaning trash in the neighborhood.**
- **Planting trees or community gardens.**
- **Collecting donations for those in need.**
- **Helping a teacher at school.**

TEACHER DO: After listing more tangible opportunities, allow more discussion on prior experience with volunteering if students realize they have in fact participated.


CHAPTER 3 HOW CAN I HELP?

BEING A GOOD CITIZEN

Read the story. Listen for examples of volunteering.

Rashad and Zeina continued thinking about the Alexandria floods on their way to school the next day.

"I think it is really cool that fishermen helped people move through the flood waters with their boats," said Zeina. "I will ask my uncle if he did that too."

"People helped other people. That is pretty awesome," added Rashad.

"If I was old enough, I would have helped bring food to people stuck at home. What would you have done, Rashad?" asked Zeina.

"I am not sure. I wonder if my favorite bakery would have needed help cleaning up after the flood. Maybe I could have helped them," offered Rashad.

"That is a great idea. When we get to school, let's see if our teacher did anything to help the school after the flood," called Zeina as she started running to get to school.

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TEACHER SAY: **Let's read about our friends Rashad and Zeina as they imagine how community members might have volunteered after the floods in Alexandria. Turn to the page Being a Good Citizen.**

 READ ALOUD: **Read the story. Listen for examples of volunteering.**

 STUDENTS DO: Read and listen for examples of volunteering.

TEACHER SAY: **How did the citizens in Alexandria volunteer to help make a positive impact on the community after the flood?**

TEACHER DO: Use Calling Sticks to have students share examples from the story.

 STUDENTS DO: Share examples from the story.

TEACHER SAY: **People help each other and their communities. Sometimes communities volunteer to help other communities. If severe flooding or another challenge faced [name a neighboring area], in what ways do you think our community could help?**

Note to Teacher: You may also have students imagine ways they could have helped the city of Alexandria.

3. TEACHER SAY: **I wonder how we can help in our own community. When you volunteer, you are helping to solve a problem or meet a need people have. Let's think about our own community. What are some problems or needs people in our community have that we can help with? What are some challenges you have seen in the community that you can help with?**

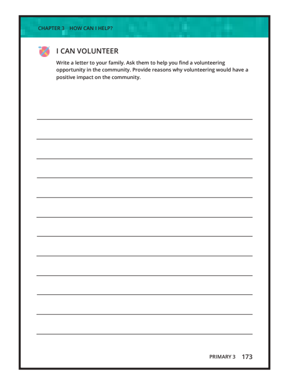
TEACHER DO: Hang up a Web at the front of the room with the word "Challenges" in the middle. Provide Think Time for students before using Calling Sticks to have students share areas of need in the community. Complete the Web based on student responses.

 STUDENTS DO: Contribute ideas to the Web.

TEACHER SAY: **Great job identifying challenges you can help with. Now I wonder, what can you do to help? In a small group, you will have time to Brainstorm some ideas. For example, we listed [name something on the list]. I think a good way to help with this problem is to [name a possible solution that would involve volunteering].**

TEACHER DO: Put students into small groups four or five to **Brainstorm** ideas. You could assign student groups two or three challenges to **Brainstorm** or allow groups to choose which challenges to address. If necessary, use **Talking Sticks** to facilitate the conversation.

 **STUDENTS DO:** **Brainstorm** ways volunteering can help with community challenges.


CHAPTER 3 HOW CAN I HELP?

I CAN VOLUNTEER

Write a letter to your family. Ask them to help you find a volunteering opportunity in the community. Provide reasons why volunteering would have a positive impact on the community.

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4. TEACHER SAY: Let's use what we just brainstormed and put our ideas into action. Even as children, you can help your community. If you discussed a challenge, you are able to organize others to find a way to help. Citizens can help a community by joining a volunteer group or organizing their own group or event. Turn to the page I Can Volunteer in your student book. On this page, you will write a letter to your family asking them to help you find a way to help solve a challenge you identified in our community. First, read the directions to yourself or with a Shoulder Partner.

 **STUDENTS DO:** Read the directions on the page.

TEACHER SAY: Think about how you would like to help in our community. Do you want to volunteer to help the environment, like planting trees or picking up trash? Do you want to volunteer to help people in our community, like making meals for the elderly? Use the ideas you discussed in your group.

Note to Teacher: Use this time to give specific examples from your local community. If possible, invite people who help organize volunteers to come speak to your students about opportunities.

 **STUDENTS DO:** Write letters to parents about volunteer opportunities.



TEACHER DO: Encourage students to write four to seven short sentences expressing their ideas. Since the audience is parents, note that language can be somewhat informal and encourage students to focus on content over sophisticated grammar. As students work, make sure they are explaining why volunteering in the community is important. When students have had time to complete the letters, use the strategy **Hands Up, Pair Up** to allow students to read their letters to one or two different partners. This is an opportunity for students to practice the Life Skill: Self-Management.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Volunteering is how people like you and I can help in our community. There are also workers whose official job it is to help and support people in the community. These people work in the government. The government is led by our president. Our government works to help when people are in trouble. Think about people in our community whose job it is to help and protect us.

TEACHER DO: Provide **Think Time** before continuing.

TEACHER SAY: Turn and share with a Shoulder Partner people in our community whose job it is to help and protect citizens.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER SAY: I heard some students mention police officers. Did you know that police officers are government employees? The government also works to help communities prevent and respond to severe water issues, such as flooding. Our government features ministries with different responsibilities to help citizens. We have a Ministry of Education, a Ministry of Culture, a Ministry of the Environment, and many more. Which ministry to do you think helps our school? Which ministry do you think helps respond to floods, like the ones in Alexandria?

TEACHER DO: You may list other ministries that students may be familiar with or that connect to past learning, such as the Ministry of Transportation. Make connections with students about the responsibilities of the ministries and how they can help citizens.

 **STUDENTS DO:** Respond with ideas about government.

TEACHER SAY: In our country, the president we vote for appoints—that means assigns—people to lead the different ministries. Tomorrow, we will have an opportunity to vote in our classroom.

Lesson 3 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Describe themselves as leaders. • Collaborate to discuss flood prevention methods. • Describe how jobs positively contribute to the community.	• Leader • Vote	• Research materials for four jobs in the community • Student books • Pencils



PREPARATION

Gather age-appropriate resources that explain the following jobs: civic leader, civil engineer, architect, city planner. If these jobs are not applicable to your local community, select four other jobs from the community that would work on flood prevention and response (for example: fisherman, police officer, firefighter, construction worker, and so on). Make sure you have gathered enough resources (text or online) for each student group to be able to use.

LIFE SKILLS

Learn to Work

Collaboration:

- Respect for other opinions.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In the previous lesson, we learned how people can volunteer to help the community. Who can share an interesting volunteering opportunity you considered?**

 STUDENTS DO: Share ideas.

TEACHER SAY: **Great. As citizens, we play important roles in our communities. We also discussed how the government can help and support a community. As citizens, we vote for the president. Today you will have a chance to vote for leaders in our classroom. Who can share what the word VOTE means?**

 STUDENTS DO: Share ideas.

TEACHER SAY: **Voting is a process for making a group decision. Each member of the group provides an individual answer, then the answers are counted. The answer that the largest number of people provided is chosen to represent the decision of the entire group. We use this word to describe how the country selects a president, but it can also apply to smaller decisions in any group. When you work in groups at school, do you ever use voting to help your group make a decision?**

 STUDENTS DO: Share experiences using voting as a collaboration tool.

2. TEACHER SAY: **We are going to do some group work today, and we will practice voting as a way to choose leaders for our groups. When you vote, you choose the person you think will best perform a job. The job of today's leaders will be to facilitate the group's discussion and present the group's ideas to the class.**

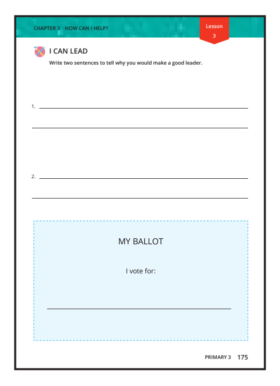
TEACHER DO: Put students into groups of six.

TEACHER SAY: Each person in the group will explain why they think they would make a good leader for these two tasks. Maybe you believe you are good at speaking to a large group. What other qualities would make you a good leader?

 **STUDENTS DO:** Share traits of a good leader.

TEACHER DO: Ask student volunteers to share traits. Traits include: kind, fair, good listener, problem solver, works well with others, willing to compromise, caring. You may list these traits at the front of the room to help students.

Note to Teacher: To allow more students to experience leadership, you may choose to separate the roles and have groups vote for both a discussion leader and a presenter. If taking this path, have students differentiate between the traits needed to succeed at each role. Modify the following learning experience as appropriate to accommodate pitching (nominating yourself) and voting for two roles.


CHAPTER 3 HOW CAN I HELP?
Lesson 3

I CAN LEAD

Write two sentences to tell why you would make a good leader.

1. ______________________

2. ______________________

MY BALLOT

I vote for:

____

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TEACHER SAY: Turn to the page in your book I Can Lead. On this page you will start by writing two sentences to tell why you would make a good leader for your group. Then each group member will share what they wrote. As group members share, make sure you are listening to help you decide which person you want to vote for. I know you would all make good leaders. This activity is an exercise to allow us to make decisions as a group and to practice voting. You should not feel badly if you are not selected, and for this activity, you cannot vote for yourself.

TEACHER DO: Provide students quiet time to write their sentences before allowing group members to take turns sharing.

 **STUDENTS DO:** Write sentences and share with group.

TEACHER SAY: Now that everyone has shared, you will vote for the person who you want to lead your group. Who do you think will do well making sure everyone gets a chance to speak and participate? Who do you think will do the best job of presenting to the class? Think for a minute, then I will explain how the vote will work.

 **STUDENTS DO:** Consider leader options using **Think Time**.

TEACHER SAY: Your ballot is at the bottom of the page. This is what you will use to vote. Let's start by cutting the bottom part of the page out of your book. Then write the name of the group member you want to be your leader on the line. You do not have to put your name on the ballot. Next, fold the ballot in half twice and put it in the middle of your group.

 **STUDENTS DO:** Follow instructions to submit votes.

TEACHER SAY: We will mix up the ballots, so you do not know who voted for whom. Now open each ballot and read each name, putting votes for the same person together. Count the number in each pile. The person whose name was chosen the most will be the leader.

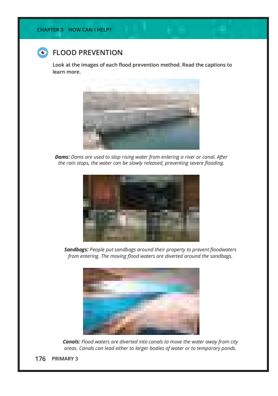
 **STUDENTS DO:** Mix up ballots, then read and count the votes.

TEACHER DO: As students vote, remind them that the leader is the person who gets the most votes. This might not always be the person every student voted for. Remind students who are not chosen that they also have the important job of contributing to the group conversation.

TEACHER SAY: Well done. Will the leader of each group please stand up? You were chosen through a vote to lead your group's discussion and present your group's ideas to the class. Your job is to make sure everyone participates in the discussion, everyone's ideas are listened to and valued, and the choice you present represents what most people in your group want. As a leader, it is important that you listen to the opinions and ideas of those you are leading. Leaders, please come collect a Talking Stick for your group.



STUDENTS DO: Collect a **Talking Stick** if selected as a group leader. (This is an opportunity for students to practice the Life Skill: Collaboration.)



3. TEACHER SAY: Now let's learn about today's group task. We have been studying the impacts of flooding. Today we are going to learn about a few ways communities around the world have worked to prevent or minimize flooding. Turn to the page Flood Prevention.



READ ALOUD: Look at the images of each flood prevention method. Read the captions to learn more.

TEACHER DO: Provide **Think Time** for students to observe the pictures on the page and read the captions.



STUDENTS DO: Read and observe.

TEACHER SAY: Now, in your groups, discuss each method. Think about if this method could work in Egypt. Each person should participate in the discussion and share ideas. As a group, you will decide which solution you think could work best in Egypt and where it might work. Maybe you think a solution would work well in Alexandria where our friends Rashad and Zeina live. Maybe you think a solution could work for locations along the Nile. As a group, make one choice and capture your reasons. The leader will present your choice and reasons to the class. The leader will also help guide the group's discussion. Let's begin.



STUDENTS DO: Discuss ideas as a group.

TEACHER DO: Monitor student discussions and provide guidance as needed. Make sure students are supporting ideas with evidence from the images or captions. After a few minutes of sharing, prompt group leaders to begin the process of making a group decision. Once students have had time to make choices and discuss reasons, bring the class back together.

TEACHER SAY: Thank you for working together and listening to each other's ideas. Will each leader please stand? We will go around the room, allowing each leader to share the group's choice and reasons to support that choice.



STUDENTS DO: Share group decisions with reasons why the choices were made.

4. TEACHER SAY: In order to prevent or respond to floods, local government officials and many other workers in the community must work together. What jobs in our local community do you think might help to prevent flooding? Turn to a Shoulder Partner to share.



STUDENTS DO: Share jobs with **Shoulder Partner**.

TEACHER SAY: Let's study a little more about the jobs that people have in the community that might be impacted by flooding, which is our major focus of this chapter. We will use the Jigsaw strategy to research four different jobs. Each student will be assigned a job to read about. [Name resources you have for students to use.] You will use the page in your student book titled Jobs Can Have an Impact to take notes as you read. Then we will share our research with a different, mixed group.



READ ALOUD: Take notes as you read about your assigned job. Make sure you answer each question.

TEACHER SAY: We will read about four jobs that can be impacted by flooding. Some of these jobs help after the flood, some during the flood, and some might work to help prevent floods.

TEACHER DO: Read aloud the questions on the note-taking page to support students in preparing to work. Then assign each student one of the following jobs to research: civic leader, civil engineer, architect, city planner. If you are unable to find appropriate resources, either in text or online, consider other jobs that might have a positive impact on your community (fisherman, police officer, firefighter, construction worker, and so on).

TEACHER SAY: Remember, as you research, think about the job in terms of how it might contribute during a time of severe flooding. How would it make a positive impact and help citizens in the community?



STUDENTS DO: Research assigned jobs.

TEACHER DO: You may choose to have students who are researching the same job work together if resources are limited. Once students complete the research, put them into groups of four with each job represented. Use **Talking Sticks** to allow each student in the group time to share what they learned.

STUDENTS DO: Share jobs in small groups.

TEACHER SAY: Great job researching and sharing. We have learned a lot today.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Let's close today by thinking about how the flood prevention ideas we discussed earlier (dams, sandbags, and so on) work together with the jobs we just researched. Turn to a Shoulder Partner and discuss how the jobs in the community you researched could help implement the flood prevention ideas you chose earlier in the lesson.



STUDENTS DO: Share opinions from earlier in the class.

Lesson 4 Overview

LEARNING OUTCOMES

Students will:
- Analyze traits of popular leaders and describe characteristics of good leaders.
- Research how past people and events have impacted the local community.
- Act out an interview between a reporter and a historical leader.

KEY VOCABULARY

- Community
- Leadership
- Traits

MATERIALS

- Research resources
- Primary resources such as photos, letters, journal entries (if available)
- Chart paper
- Markers
- Student books
- Pencils

PREPARATION

Collect books, newspapers, and websites that highlight leaders from your community. If possible, collect primary sources, such as photos, letters, journal entries, and so on. You may also invite community members to class to provide an oral history of the community.

Prepare a chart labeled "Leadership Traits."

Prepare a list of names of leaders who have impacted the community.

LIFE SKILLS

Learn to Know	Learn to Work
Critical Thinking: • Explain thinking processes.	Collaboration: • Respect for other opinions.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the last lesson, we talked about some jobs in our community that have a positive impact. Which job are you most interested in learning more about? Share with a Shoulder Partner.

 **STUDENTS DO:** Share with **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two to five students to share answers out loud with the entire class.

2. TEACHER SAY: There are many kinds of communities. Communities can work together to solve problems that are too big for one person to solve. We have been talking a lot about communities so far in this chapter. Let's briefly review what a community means to us.

TEACHER DO: Use **Calling Sticks** to ask students to describe what a community means.

 **STUDENTS DO:** Share definitions of community.

TEACHER SAY: Well done. If we put all our ideas together, we can say that a community is a group of people who share the same things, such as where they live, traditions, language, interests, and a way of life. Every community is made up of people, places, and things, each playing an important role. In the previous lesson, you thought about the traits that would make you a good leader in our class. What were some of those traits?

TEACHER DO: Use **Calling Sticks** to ask students to describe a leader.

 **STUDENTS DO:** Share ideas with the class.

TEACHER SAY: One good way to learn about the traits of good leaders is to study leaders from the past. Let's consider the traits of some famous leaders we know. Who are some famous leaders you can name?

Note to Teacher: Encourage students to consider leaders in different fields, such as government, business, entertainment, philanthropy, and sports. If students have trouble naming some leaders, encourage them to think about symbols around the community that celebrate leaders, such as street names or statues.

TEACHER DO: Use **Calling Sticks** to ask students for names of famous leaders.

 **STUDENTS DO:** Share ideas with the class.

TEACHER DO: Take note of leaders repeated often or that generate enthusiasm, and form groups of students based on several common leaders named. Identify common leaders for the class, then ask students to choose one that they are interested in learning more about.

 **STUDENTS DO:** Use **Think Time** to think about which leader they know the most about.

TEACHER SAY: When I call the name of a leader you know, form a group.

 **STUDENTS DO:** Form several groups to discuss different leaders.

TEACHER DO: Hand out student books.

3. TEACHER SAY: Open your student books to the page What Makes a Good Leader?

 **READ ALOUD: Circle the traits or characteristics that make your selected person a good leader.**

TEACHER SAY: In your groups, talk about the traits that make your person a good leader, such as honesty, helps others, good communicator, and so on. Circle the traits you discuss in your student book.

 **STUDENTS DO:** Work collaboratively to circle traits of the chosen leader.

TEACHER SAY: Next, join another group and compare the traits of your leaders. Underline any traits that you both circled.



 **STUDENTS DO:** Work collaboratively to compare and contrast lists of traits common to leaders. (This is an opportunity for students to practice the Life Skill: Collaboration.)

TEACHER SAY: Now let's share the traits we have underlined, which your leaders have in common, and make a class list of common leadership traits.

TEACHER DO: Use **Calling Sticks** to select students to share collaborative work. Record responses on chart paper labeled "Leadership Traits."

 **STUDENTS DO:** Share traits common to leaders.

TEACHER SAY: To continue learning about leadership, we are going to research leaders and events that shape our community. Keep these traits in mind as we learn. First, let's discuss a list of past leaders in our community. What do you already know about anyone on this list?

TEACHER DO: Show students a list of leaders that impacted the community.

 **STUDENTS DO:** Share prior knowledge of leaders on the pre-prepared list.

TEACHER SAY: **We already know some things about a few of these leaders. What are some ways we can learn more about leaders who have influenced our community? Share your idea with a Shoulder Partner.**

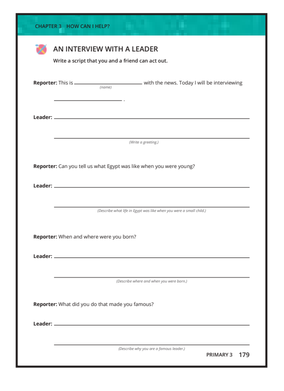


 **STUDENTS DO:** Share ideas with **Shoulder Partner**. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

4. **TEACHER SAY:** **Let's learn more about the important people from our past that have made a difference in our lives today. Before we start, let's consider one more question: Why do you think it is important to learn about our past?**

TEACHER DO: Use **Calling Sticks** to ask students several students to respond.

 **STUDENTS DO:** Share ideas with the class.


CHAPTER 3 HOW CAN I HELP?

AN INTERVIEW WITH A LEADER

Write a script that you and a friend can act out.

Reporter: This is ______ (name) with the news. Today I will be interviewing ______ .

Leader: ______ (Write a greeting.)

Reporter: Can you tell us what Egypt was like when you were young?

Leader: ______ (Describe what life in Egypt was like when you were a small child.)

Reporter: When and where were you born?

Leader: ______ (Describe where and when you were born.)

Reporter: What did you do that made you famous?

Leader: ______ (Describe why you are a famous leader.)

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TEACHER SAY: **History provides a picture of how our community worked in the past so that we can better understand how it works now. Knowing our history can help us become better citizens and more effective members of the community. It is the story of us. The history we will study today focuses on people who worked hard to make the community a better place. Open your student books to the page An Interview with a Leader.**

 **READ ALOUD:** **Write a script that you and a friend can act out.**

TEACHER SAY: **As you research a famous leader from the past, pretend that you are a news reporter interviewing that person. Use the sentence starters to help you write the script. You and a partner will each act out your interviews later. Let's read the script page first to identify information we need to collect. There is a blank reporter and leader section at the end. You may write your own question and answer here.**

TEACHER DO: Assign students partners to work with.

 **STUDENTS DO:** Read the interview pages and sentence starters.

Note to Teacher: Address any student questions at this time. Encourage students to leave out or rewrite questions if they have difficulty finding the information.

TEACHER SAY: **Now that you know what information you need to collect, begin your research.**

 **STUDENTS DO:** Research famous leader and write an interview script.

Note to Teacher: Provide as many available resources as possible, such as books, pictures, magazines, newspapers, and internet resources. You may also invite community members to class to provide an oral history of the community. This is a good opportunity to introduce students to the importance of resources in historical study. They will learn more about reliability and comparing resources in the next theme. For now, it is enough to highlight that there are different types of sources and, if applicable, distinguish between primary and secondary sources. A primary source is a document that gives a first-hand account of an event or time (such as a letter written by a leader). A secondary source is written about the event and includes some analysis or interpretation (such as a biographical story about the leader).

TEACHER DO: Circulate around the room as students work to clarify and help suggest resources for students to use. Students may need more support to complete the two-step task of research and writing the script. As needed, break up the work into smaller tasks (consider having the class help in this organizing process) with individual prompts for when partners should be moving to the next task.

TEACHER SAY: **Well done. Take turns and act out your scripts with a partner.**

 **STUDENTS DO:** Act out interview scripts.

TEACHER DO: Circulate around the room to encourage and praise students. When students are finished acting out the scripts, place partner pairs into groups of four or six total students and have students share scripts.

Note to Teacher: To extend learning about community leaders, consider having students draw an image of the researched leader on a pedestal (as a statue), with facts about the leader or honorable character traits of the leader listed on the pedestal. These posters could be hung inside or outside the classroom or shared with the community.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we learned about our community and past leaders. What leadership traits do you want to further develop in yourself? Discuss with your Shoulder Partner.

 **STUDENTS DO:** Share with **Shoulder Partner**.

Lesson 5 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Communicate environmental needs of the local community. • Explain how people can help protect the environment.	• Irrigate	• Scrap paper • Scissors • Coins • Chart paper • Student books • Pencils

PREPARATION

Prepare a chart with the titles "Kind of Material" and "Location."

LIFE SKILLS

Learn to Know

Critical Thinking:

- Explain thinking processes.

Problem-Solving:

- Collect problem-related data.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In the previous lesson, we talked about our past leaders. What was something important you learned from your research? Share with a Shoulder Partner who was not your partner in writing the interview.**



STUDENTS DO: Share ideas.

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.

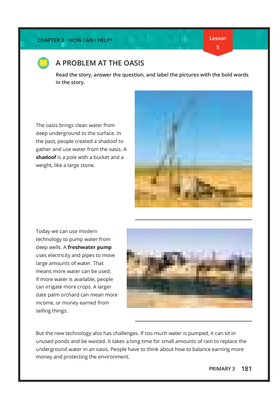
2. TEACHER SAY: **In Chapter 2, we read the story of how Rashad and Zeina went to a museum and learned about an oasis. They learned that the water that bubbles up to the surface from deep underground rivers and streams is very important to communities in the desert. What are some reasons that an oasis in the desert is important?**

TEACHER DO: Use Calling Sticks to ask several students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: **Correct, the oasis helps supply drinking water to the community; water for irrigation, or watering crops; and water for creating things to sell, like pottery or textiles. Water is very, very important.**



TEACHER DO: Hand out student books.

TEACHER SAY: **Open your student books to the page A Problem at the Oasis. Read the directions with a Shoulder Partner, then read the story and complete the instructions on your own.**



STUDENTS DO: Read the story, answer the question, and label the pictures.

TEACHER DO: You may choose to read the story to your students or read as a class depending on literacy levels. As students work, circulate around the room, checking for understanding. Scan student books to be sure students are labeling the pictures correctly.

TEACHER SAY: Check with your Shoulder Partner to see if you labeled the pictures in the same way. If you disagree on any pictures, discuss your thinking and see if you can agree on an answer.



 **STUDENTS DO:** Compare picture labels and discuss reasoning behind any differences. Adjust answers after discussion. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

TEACHER SAY: In the story, how did new technology help the community at the oasis? How did it hurt them?

TEACHER DO: Use **Calling Sticks** to ask several students to respond.

 **STUDENTS DO:** Share ideas with the class.

Note to Teacher: Students should make the connection that the freshwater pumps can remove more water than the shadoof and this might affect how much water is available to the entire community.

TEACHER SAY: Life is full of making decisions. When should I finish my work? What will I do after school? Sometimes the decisions we make affect other people or the environment. Let's think about an example. If I throw a piece of trash in the river, how does that affect others and the environment?

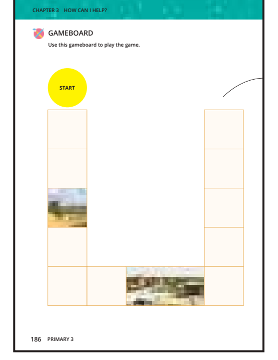
TEACHER DO: Use **Calling Sticks** to ask students several students to respond.

 **STUDENTS DO:** Share ideas with the class.

TEACHER SAY: A water bird might eat the trash and get sick. Another citizen might see the trash and think it is okay to litter, then add more trash to the area. Raise your hand if you have played a game where you have to make decisions.

 **STUDENTS DO:** Share experiences playing decision-making games.

3. TEACHER SAY: One important type of decision that families often have to make are economic decisions. These are decisions about money that can affect individuals in the family. Sometimes they also affect the environment. If I lived near the oasis and sold dates to earn money, or income, I might want to buy a freshwater pump to get more water for my date palm trees. The money I spend on the pump might mean I have less money to buy new clothes. That might mean that my oldest child's clothes have to be passed to the next child. Let's play a game where we have to make some important decisions. Open your student books to the pages Gameboard Decision Cards and Gameboard.



TEACHER DO: Before students begin, review the actions listed on each card to ensure that students understand the vocabulary associated with each decision. Hand out scissors to students. Encourage students to help each other as they cut out the cards. Students can play in pairs. For pairs, they only need to cut out one set of cards. Have students shuffle the cards and place them in a pile face down. If they get a decision card, they will flip a coin to make the decision. Heads for the first choice, tails for the second choice. Students will take turns reading a card and moving the correct number of spaces. The first person to reach the end wins the game.

 **READ ALOUD: Cut out the cards. Place them face down in a pile in random order. Take turns reading a card and moving the correct number of spaces.**

TEACHER SAY: Use a small scrap of paper with your initials on it as a game piece. Some cards may have two possible choices. Flip a coin to make the choice. Heads means you make the first choice and tails means you make the second choice. You may play the game with a Shoulder Partner. The first person to reach the end wins.

 **STUDENTS DO:** Cut out cards and play game.

TEACHER DO: Circulate around the room as students play the game and make decisions. Ask students if they can spot a pattern in the moves.

Note to Teacher: This is a good opportunity for students to practice the computational thinking skill of pattern recognition in an applied context. Beyond visual or numeric patterns, students can identify patterns of cause and effect. Computer simulations for complex problems, such as climate change, take the effect of human decisions into account in order to predict larger impact.

4. TEACHER SAY: **I am glad you had fun playing that game. What did you notice about the choices that made you move back spaces?**

TEACHER DO: Use **Calling Sticks** to ask several students to respond.

 STUDENTS DO: Share ideas with the class.

TEACHER SAY: **Correct. Choices that affect the environment negatively, or hurt it, caused you to move backward. Negative choices hurt the environment. We need to be aware of choices we make that can hurt the environment because we all share the environment as a community. What kind of choices made you move forward in the game?**

TEACHER DO: Use **Calling Sticks** to ask several students to respond.

 STUDENTS DO: Share ideas with the class.

TEACHER SAY: **When you did something that helped, or protected, the environment, you got to move ahead in the game. For example, when you plant a tree, it can benefit everyone in the community. As it grows, it will provide shade, shelter, and food for animals and birds. How else might a new tree benefit a community?**

 STUDENTS DO: Share ideas.

TEACHER SAY: **In this game, we flipped a coin to make a decision. Do you think this is the best way to make a decision that can affect others and the environment? Why or why not?**

TEACHER DO: Use **Calling Sticks** to ask several students to respond.

 STUDENTS DO: Share ideas with the class.

TEACHER SAY: **In real life, we need to very carefully consider the decisions we make. We need to thoughtfully be aware of how a decision may hurt or help our environment. Our school is a type of community. What are some concerns you have about the environment in our community? Tell a Shoulder Partner.**

 STUDENTS DO: Share ideas with **Shoulder Partner**.

5. TEACHER SAY: **What are some ways that you can help protect the environment in our community?**

TEACHER DO: Use the **Popcorn** strategy to encourage many students to share ideas.

 STUDENTS DO: **Popcorn** to share ideas with the class.

TEACHER SAY: **You have some clever ideas for protecting our school environment. I heard ideas about reusing or recycling materials. Let's take a quick walk outside and see what we can do to clean up our area. What are some ways we can organize our clean up?**

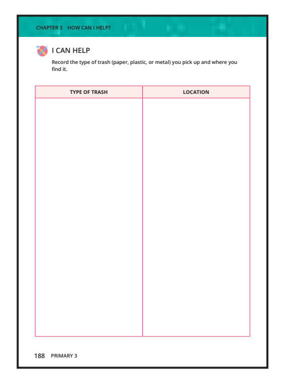
TEACHER DO: Use **Calling Sticks** to ask several students to respond.

 STUDENTS DO: Share ideas with the class.

TEACHER SAY: **Is there any technology that we can use to help us?**

TEACHER DO: Use **Calling Sticks** to ask several students to respond.

 STUDENTS DO: Share ideas with the class.


CHAPTER 3 HOW CAN I HELP?

I CAN HELP

Record the type of trash (paper, plastic, or metal) you pick up and where you find it.

TYPE OF TRASH	LOCATION

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TEACHER SAY: There are many ways technology could help us. We could use a camera to document where we find trash so that we can analyze why trash is collecting in that spot. We could attach a magnet to a stick to pick up pieces of metal, like nails that we should not pick up with our hands. Before we go out, open your student books to the page I Can Help.



READ ALOUD: Record the type of trash (paper, plastic, or metal) you pick up and where you find it.

Note to Teacher: Caution students to not pick up glass objects. If possible, give students gloves or have them place their hands in a plastic bag to pick up objects. Remind students to wash hands thoroughly upon return to the classroom.





STUDENTS DO: Collect trash around the school and record data on the **T-Chart**. (This is an opportunity for students to practice the Life Skill: Problem-Solving.)

TEACHER SAY: Well done. Our school area looks better already.

Note to Teacher: If time runs short in this lesson, consider performing analysis on the data collected at the beginning of the next lesson and skip to the closing.

6. TEACHER SAY: Let's look at the data for what we collected and see if we can analyze any patterns. Looking for patterns is an important skill in computational thinking. If we notice a pattern, it might help us solve the problem. When I call your row, place a tally mark in the correct column and record the location.



STUDENTS DO: Record data on class chart.

TEACHER SAY: What do you notice about our data?

Note to Teacher: Encourage students to identify patterns, such as there's more paper than plastic or there's more trash by the gate than by the front door. This is a good opportunity to discuss computational thinking skill of pattern recognition.

TEACHER DO: Use **Calling Sticks** to ask several students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Now that we have identified some patterns, maybe it will help us solve the problem. What are some reasons why you think we found trash [name a common location]?

TEACHER DO: Use **Calling Sticks** to ask several students to respond.



STUDENTS DO: Share ideas with the class.

Note to Teacher: Encourage students to consider factors, such as wind, common paths, nearby businesses, and so on.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we talked about protecting our environment and making economic decisions that can affect people and the environment. Turn to your Shoulder Partner and describe one way you are going to help protect our school environment.



STUDENTS DO: Share ideas with **Shoulder Partner**.

Lesson 6 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Describe how technology has contributed to environmental protection.	• Advantage • Disadvantage	• Crayons • Student books • Pencils

PREPARATION

If you decided to postpone data analysis from the school clean up in the previous lesson, remember to begin this lesson with the discussion outlined in step #6 of the previous lesson.

LIFE SKILLS

Learn to Be

Communication:

- Reading, writing, nonverbal communication skills.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In the previous lesson, we talked about ways we can protect the environment. What is something you did today that helps the environment? Turn to share with your Shoulder Partner.**

 STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.

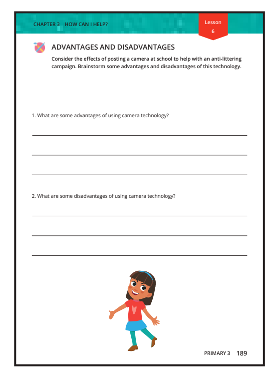
TEACHER SAY: **When we went out to collect trash, we discussed and used some technology to help us. What is one technology you wish we had been able to use that would have made the work easier? Turn to share with your Shoulder Partner.**

 STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two to four students to share answers out loud with the entire class.

2. TEACHER SAY: **Technology can be very helpful in protecting the environment around us. You have some creative ideas. In the previous lesson, we suggested that a camera might be helpful for documenting and analyzing locations where we find trash. Imagine that we organized a school-wide volunteer effort to keep our environment trash-free. How else might a camera help us?**

STUDENTS DO: Share ideas.



CHAPTER 3 HOW CAN I HELP? Lesson 6

ADVANTAGES AND DISADVANTAGES

Consider the effects of posting a camera at school to help with an anti-littering campaign. Brainstorm some advantages and disadvantages of this technology.

1. What are some advantages of using camera technology?

2. What are some disadvantages of using camera technology?

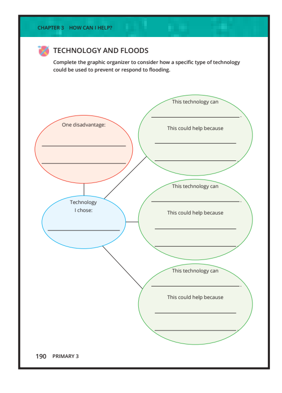
PRIMARY 3 189

TEACHER SAY: **A camera taking pictures from above us could also help us see trash in hard-to-see places. We could use pictures of trash as posters to remind students not to litter. A camera is a useful technology tool. As we recently learned in our decisions game, though, to be sure that technology is helpful, we need to consider both the advantages and disadvantages. Turn to the page Advantages and Disadvantages in your student book. Work with a Shoulder Partner to consider how a camera could be helpful and what challenges might arise.**

 STUDENTS DO: Consider the advantages and disadvantages of using a camera in a litter-free school campaign.

TEACHER DO: Once partners have listed a few advantages and disadvantages of posting a camera around school for a cleaning campaign, facilitate a discussion around their ideas. Encourage consideration of logistical challenges (Where would the camera be posted? How would photos be retrieved?) and ethical challenges. (A camera would likely capture much more information than just the trash. Would students and teachers need to be notified that a camera was in use?)

Note to Teacher: Students will likely have differing opinions about what should be considered an advantage and what is a disadvantage. These issues do not have single, easy answers and are often debated in the real world. Allow for respectful disagreement in the discussion and support students in being comfortable that one "right" answer does not exist.


CHAPTER 3 HOW CAN I HELP?

TECHNOLOGY AND FLOODS

Complete the graphic organizer to consider how a specific type of technology could be used to prevent or respond to flooding.

One disadvantage:

Technology I chose:

This technology can

This could help because

This technology can

This could help because

This technology can

This could help because

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3. TEACHER SAY: You did a wonderful job considering the advantages and disadvantages of posting a camera at school. Technologies are created to help us solve problems, but sometimes they introduce new problems as well. We have been thinking hard about how technology could help our school. Let's apply this thinking to our chapter topic of how communities prevent and respond to floods. Open your student books to the page Technology and Floods. Read the directions and show me a Thumbs Up when you are ready.

 **STUDENTS DO:** Read directions and show **Thumbs Up**.

TEACHER SAY: We are going to be creative and consider how technology might help a community prevent or respond to a flood. Since we have already been thinking about cameras today, some of you might want to consider how cameras could help prevent or respond to flooding. Others might want to think about another type of technology. Remember that in a previous lesson, we discussed several different technologies including dams, sandbags and so on. First, choose a type of technology and write it in the center circle. It does not have to be something we studied. You can be creative and choose your own idea if you want to.

 **STUDENTS DO:** Choose a type of technology that might help flooding.

TEACHER SAY: Next, think about what that technology can do. Explain three functions of the technology and how each would help in flood prevention or response. Then identify one potential disadvantage. Complete the graphic organizer.

TEACHER DO: Answer any questions students might have about the learning experience. Circulate around the room as students work. Ask probing questions such as: How does your technology work? What problems can it help solve?

4. TEACHER SAY: Share your work in your row. Select two ideas to share with the class.

 **STUDENTS DO:** Share ideas in small groups or rows. After sharing, come to consensus and select two ideas to share with the rest of the class.

TEACHER DO: Encourage students to find a fair way to select the ideas to share. For example, they may choose to vote, flip a coin, and so on.

TEACHER SAY: I like that you found a fair way to select two ideas to share. When I call your row, please share your two ideas with the class.

 **STUDENTS DO:** Share ideas with the class.

TEACHER SAY: These are wonderful and creative solutions for how technology can be used to prevent or respond to flooding. People who help create new things to solve problems are called engineers. Perhaps one day, some of you will become engineers.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we talked about ways that technology can help us protect our environment. What kind of skills do you think you need to design and build the technology you considered? Share with a Shoulder Partner.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

Lesson 7 Overview

LEARNING OUTCOMES

Students will:

- Use coding to create a drone scanning map of a flooded area in Alexandria.

KEY VOCABULARY

- Algorithm
- Code
- Society

MATERIALS

- Six plastic cups or other stackable objects per group
- Blank paper
- Graph paper
- Crayons
- Small buttons or similar type of marker to represent a device
- Poster or chart paper
- Student books
- Pencils

LIFE SKILLS

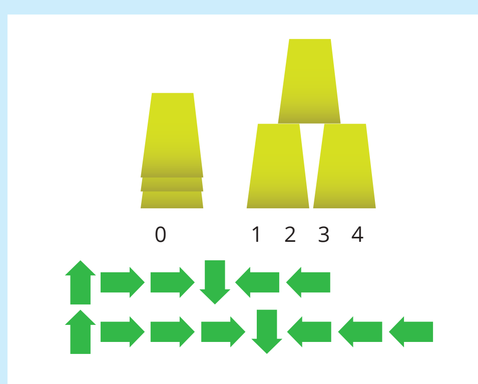
Learn to Know

Critical Thinking:

- Explain thinking processes.

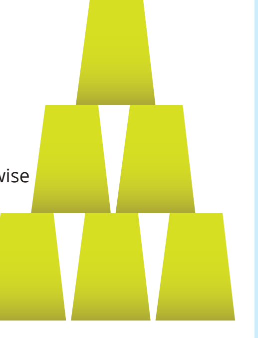
PREPARATION

Prepare a poster with the following coding directions:



Prepare another poster for guided practice:

↑ – pick up cup
↓ – put down cup
→ – move 1/2 cup width right
← – move 1/2 cup width left
↻ – rotate cup 90 clockwise
↺ – rotate cup 90 counterclockwise



Prepare another poster for the Alexandria challenge:

↑	1 step up	⇧	5 steps up
↓	1 step down	⇩	5 steps down
→	1 step right	⇨	5 steps right
←	1 step left	⇦	5 steps left

Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we talked about technology that can help us protect the environment. Why do people create new types of technology? Share your ideas with a Shoulder Partner.

TEACHER DO: Listen for student responses. Select two to four students to share answers out loud with the entire class.

 **STUDENTS DO:** Share ideas with the class.

TEACHER SAY: When a society, or a group of people living in a community, has a problem, new ideas can lead to new technology. One fascinating recent technology is an aerial camera—a small flying machine that can take pictures from above and be controlled from the ground. We talked about how a camera could help a litter project in our school. How do you think an aerial camera would be able to help in flood response? Turn to your Shoulder Partner to share ideas.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

2. TEACHER SAY: Today we are going to explore how this technology could help us gather information in a flood zone. In order to complete our challenge, we need to learn a bit more about how computers work. Computers can make tasks easier. However, a computer only does what you tell it to do. You must give a computer very specific or precise directions. We call these directions computer code. Let's experience some code for ourselves. Please stand with your Shoulder Partner.

 **STUDENTS DO:** Stand with **Shoulder Partner**.

TEACHER SAY: One student will be a robot and the other student will give directions for how to move. Students giving directions, come up here so I can whisper to you.

 **STUDENTS DO:** Go to the teacher's area if giving directions.

Note to Teacher: If your room does not have enough space for students to work together in pairs, you may choose to have the class give you directions as the "robot." For example, if students tell you to walk forward, keep walking forward until they tell you to stop or turn to a different direction. Students will find your behavior very amusing, so remind them that even though it seems silly, computers (and robots controlled by computers) are very literal. If you want the robot to walk five paces, stop and then turn to the right, you have to be precise with directions.

TEACHER DO: Call students who will give directions to the front of the room and whisper to them that they must give directions to their "robot" to move in a square or box pattern. Note that the robot does not understand the word SQUARE, only the words WALK FORWARD, WALK BACKWARD, TURN, and numbers or place references (such as TURN TOWARD THE WINDOW).

TEACHER SAY: Robots, you must follow the directions your Shoulder Partner gives you exactly. You may begin.

 **STUDENTS DO:** Give or follow directions to move in a square or box pattern.

TEACHER DO: As you circulate around the room, remind robots to follow exactly what is said. For example, if the partner does not say how many steps to take, just keep walking. Encourage students to give only one direction at a time.

TEACHER SAY: Thank you for trying something completely new. I saw some robots walking in squares and some doing other things. Whether or not your pair was successful, what did you learn together?

TEACHER DO: Use **Calling Sticks** to ask students several students to respond.



 **STUDENTS DO:** Share ideas with the class. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

TEACHER SAY: I am glad you see how important it is to give very exact, step-by-step directions. Let's switch places. The students who just gave the directions will become the robots and the students who were robots will now give the directions. Let's see if you can give better directions this time. If you are giving directions, come up here and I will whisper your challenge.

TEACHER DO: Call students who will give directions to the front of the room and whisper to them that they must give directions to their "robot" to move in a triangle pattern. Note that the robot does not understand the word TRIANGLE, only the words WALK FORWARD, WALK BACKWARD, TURN, and numbers or place references (such as TURN TOWARD THE WINDOW).

 **STUDENTS DO:** One student gives directions to move in a triangle pattern and the other student pretends to be a robot and follows their partner's directions exactly.

TEACHER DO: As you circulate around the room, ask students who are giving directions how they can get the robot to make the triangle shape. What words do they need to use? How is this different from the square? After the second round, have students return to seats.

TEACHER SAY: Turn to another pair of partners and tell them what you learned in this second round.

 **STUDENTS DO:** Share insights with another pair of partners.

TEACHER SAY: This first challenge asked you to create a series of steps for your partner. A series of steps to solve a problem is called an ALGORITHM. Computer code is series of steps in a special language that a machine can understand and complete. You created an algorithm, or steps, to solve this challenge. Who can tell me the steps they used to make the square pattern?

TEACHER DO: Call on a student volunteer.

 **STUDENTS DO:** Share steps or algorithm with the class.

TEACHER SAY: That was a very good description of the algorithm or steps you used. Now, that we have practiced in these simple examples, let's try a more sophisticated challenge. One way an aerial camera could help in a flood is taking pictures of areas that are unreachable from the ground. How else could the aerial camera help? What could we learn by sending an aerial camera over this area?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: We could use pictures to look for people who need help or to look for potentially unsafe areas, like if an electric line has fallen. In order to get good information, we need a plan for where our camera will go. Remember that the code is the language used by the machine or device. We are going to use arrows as our code or language. We want to instruct our device using code to scan a flooded area of Alexandria.

TEACHER DO: Show students the first poster with the cups stacked.

TEACHER SAY: This is the special computer language, or code, we will use to have our device scan the flooded waters in Alexandria. It has a series of steps, or an algorithm.

Note to Teacher: The word step is used in the poster to indicate the moving of the cup. Just like students practiced moving one step at a time as a robot, the word step means to move the cup. The arrows indicate which way to move the cup. Notice that by the time students get to the Alexandria flood challenge, they can use double arrows for efficiency. For example, instead of drawing five arrows pointed left, they can draw one double arrow pointed left to represent moving five steps to the left. The reason each step is only half the width of the cup is so that the cups can be balanced between each other in the pyramid example.

TEACHER DO: Interpret and explain the code on the poster as needed.

TEACHER SAY: The word step means to move the cup. Your hand is the robot in this example. The arrow tells you which direction to move. Each step is half the width of the cup. If we want to move one whole space to the right from the stack of cups, what would be my code?

TEACHER DO: Use **Calling Sticks** to ask students several students to respond.

 **STUDENTS DO:** Share ideas with the class.

TEACHER SAY: Correct. To move the cup one whole space to the right, away from the stack, my code would be: arrow pointing to the right, arrow pointing to the right. We need two arrows because one half plus one half equals one whole. Let's practice using this code. If I want my hand—or robot—to move back to the starting position, I use the code: step backward. Move your hand with me as I call out a code. Pick up cup, step forward, step forward, put down cup, step backwards, step backwards.

 **STUDENTS DO:** Move hands in the motion of the code.

TEACHER SAY: Where should my hand be?

TEACHER DO: Use **Calling Sticks** to ask several students to respond.

 **STUDENTS DO:** Share ideas with the class.

TEACHER SAY: Correct, my hand is back at the beginning of the stack.

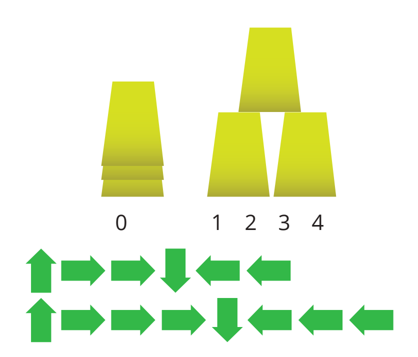
TEACHER SAY: Let's try it with the cups. Who would like to help demonstrate?

 **STUDENTS DO:** Raise hands to volunteer.

TEACHER DO: Select a volunteer.

TEACHER SAY: Everyone, repeat the steps out loud with me as we demonstrate the moves.

 **STUDENTS DO:** Repeat the following: Pick up cup, step forward, step forward, put cup down, step backward, step backward, pick cup up, step forward, step forward, step forward, step forward, put cup down, step backward, step backward, step backward, step backward,

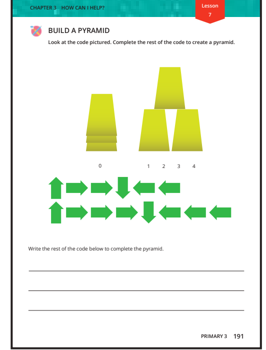


TEACHER DO: Demonstrate the code, going step by step. Have a student demonstrate as you read out the code. Point to each arrow on the chart as the student moves the cup. Remind students that a step forward is only a 1/2 width of the cup. Some students may be confused with the step backward command. Remind them that when they put the cup down, the next direction tells their hand where to go.

TEACHER SAY: Very good. I wonder: Can you use this code to build a pyramid of cups? Let's try. Open your student book to the page Build a Pyramid.

READ ALOUD: Look at the code pictured. Complete the rest of the code to create a pyramid.

TEACHER DO: Hand out cups to students. Point to the next chart you made with the pyramid challenge.


CHAPTER 3 HOW CAN I HELP?

Lesson 7

BUILD A PYRAMID

Look at the code pictured. Complete the rest of the code to create a pyramid.

0 1 2 3 4

Write the rest of the code below to complete the pyramid.

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Note to Teacher: Depending on the number of cups available, allow students to work in small groups or pairs.

TEACHER SAY: **Work together to practice building a pyramid using code. When you figure out the steps that work, finish writing the code in your student books.**

 STUDENTS DO: Work in groups to follow and complete the code to create a pyramid.

TEACHER DO: Circulate around the room as students work and encourage students to help each other.

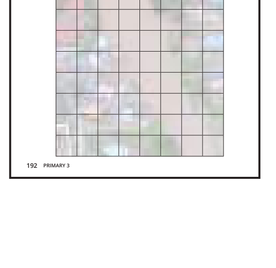
TEACHER SAY: **Very good. You are doing a great job learning to code. Let's see how you completed the code.**

TEACHER DO: Use **Calling Sticks** to ask a student to share the final code.

 STUDENTS DO: Share results with the class.

TEACHER SAY: **People use a lot of technology every day. Cell phones, computers and some cars even have computer systems that help them run more efficiently. Learning to code can be an important job skill. Raise your hand if you might like to be a computer programmer who creates codes to tell the computer what to do.**

 STUDENTS DO: Raise hands if interested in coding as a future job.


CHAPTER 3 HOW CAN I HELP?

SCANNING THE ALEXANDRIA FLOOD

Write code that will instruct the camera to fly over every square of the area shown below, then return to the starting point. Use only the code given below, but you can use this code in any order you choose.

↑	1 step up	⇧	5 steps up
↓	1 step down	⇩	5 steps down
→	1 step right	⇨	5 steps right
←	1 step left	⇦	5 steps left

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TEACHER SAY: **Now for our big challenge. We have been studying how flooding can affect our community and how technology can help. Our final challenge today is to code the camera to fly over an area of Alexandria that is flooded. This will help us see how much damage there is in the area. Open your student books to the page Scanning the Alexandria Flood.**

 READ ALOUD: **Write code that will instruct the camera to fly over every square of the area shown below, then return to the starting point. Use only the code options given below, but you can use this code in any order you choose.**

TEACHER DO: Hand out a small button or other marker to represent the device. Review the code provided on the page, asking students to identify what is new from the previous challenge. (Double lines on the arrow means take five steps at a time.)

TEACHER SAY: **The marker represents your device and can be placed on your grid to help you keep your place.**

 STUDENTS DO: Create code for the device to scan Alexandria.

TEACHER DO: Give groups time to work out and write code. Encourage students to collaborate. Students can sketch steps on the graph paper, and then test it on another blank 10 x 8 unit grid, using the marker. This will help them catch any "bugs" in the code.

Note to Teacher: This is an opportunity for students to practice many computational thinking skills. The learning experience is built on the skill of creating a computational artifact, as students are asked to write code to instruct a computer. The process of using a tangible marker to simulate the code as it is written allows students to practice testing and refining. If time allows, when all the teams are finished, see how many steps each group took and determine which group was the most efficient. Ask students if it was more efficient to scan up and down or across? Explain to students that it is better to use the fewest steps because there is less chance of making errors. This reinforces the skills of recognizing patterns and creating algorithms.

3. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: **Today we learned about how to write code to instruct a computer on what to do. Which was easier, coding the pyramid or the aerial camera? Why? Discuss with your Shoulder Partner.**

 STUDENTS DO: Discuss with **Shoulder Partner**.

Lesson 8 Overview

LEARNING OUTCOMES	MATERIALS	PREPARATION
Students will: • Apply knowledge to plan effective flood barriers. • Analyze material choices. • Apply the engineering design process to collaborate to solve a problem.	• Student books • Pencils • Flood barrier set-up (plastic tub with a model of or a toy house) • Materials for construction (could include the following): ◦ Paper towels ◦ Cardboard tubes (toilet paper rolls or paper towel rolls) ◦ Plastic water bottles ◦ Sand ◦ Plastic bags ◦ Clay ◦ Sponges ◦ Rocks ◦ Tape ◦ String	Set up a flood barrier testing model that consists of a large plastic tub and a model house (can be a tissue box) on one end. Have multiple house models ready to use in case some barriers fail during testing. Depending on the size of your tub, determine ahead of time how much water you will pour into the tub to simulate a flood. Gather materials for students to explore and use to create flood barriers.

LIFE SKILLS
Learn to Live Together
Respect for Diversity: • Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.



Share (90 minutes)

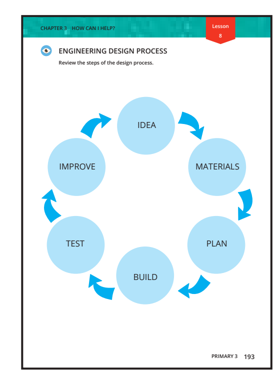
Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In the previous lesson, we used technology to scan an area after a flood. Turn to a Shoulder Partner and share how technology could help after a flood.**



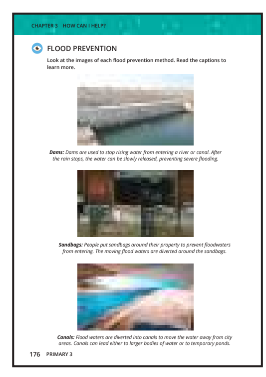
STUDENTS DO: Share ideas with **Shoulder Partner**.



2. TEACHER SAY: **We have been learning a lot about different ways that communities respond to flood and try to minimize the resulting damage. For our Share Project, we are going to see if we can design our own solution for protecting a home from the damaging effects of flood waters. Turn to the page in your books Engineering Design Process so that we can review the process we will use to design our solution.**

TEACHER DO: Review each step in the process with your class. If your students struggled with a step in the previous theme, make sure to clarify any misunderstandings at this time. Ask students: What do we do first? What do you think we need to do first to solve our problem in this chapter?

3. TEACHER SAY: **Let's begin by reviewing what we have learned so far about floods. Who recalls some of the ways people already try to stop floodwaters from damaging a town? Remember, you examined pictures as a group and discussed which method you thought might work best for Egypt.**



TEACHER DO: Call on students to volunteer what they remember. You may have students turn back to the page Flood Prevention in the student book.

STUDENTS DO: Share ways communities try to prevent floods.

TEACHER SAY: Great job recalling what we learned earlier in our chapter. We are going to work collaboratively to create an effective barrier to stop flood waters from reaching a house. We have already thought about what has been done before. Before we start, let's look at My Self-Assessment to go over the expectations for the project.

TEACHER DO: Lead students through the self-assessment, reviewing what is expected as students work and collaborate.

4. TEACHER SAY: Let's start by observing the model we will use for our flood barrier.

TEACHER DO: Show students the set-up for the flood simulation. Have a plastic tub with a cardboard house (this can be made from a tissue box) on one side.

TEACHER SAY: Your job is to design a way to prevent floodwaters from reaching the house. I will be pouring [predetermined amount] of water into the tub. You want to create the best barrier to stop the water. The first step of the engineering design process is identifying the problem. We have examined this problem throughout the chapter. We have also been brainstorming and observing potential solutions through reading and learning from images. Now let's move into the next step of the design process. Let's observe the materials available to use to create a flood barrier.

TEACHER DO: Show students the materials available.

TEACHER SAY: Before we begin planning our design, we need to take time to observe the materials. What questions do you have about the materials? What information will help you create the most effective barrier?



STUDENTS DO: Share questions.

TEACHER DO: Call on student volunteers to respond. Responses can include:

- What happens when the material gets wet?
- Which materials stop water the best?
- How strong is the material?
- How can the materials be combined to stop the water?

TEACHER SAY: Let's take time to observe the materials in groups.

TEACHER DO: Put students into table groups. Place samples of the materials on the tables for students to observe. Have a small amount of water available for students to test the materials.



STUDENTS DO: Observe the materials that can be used.

5. TEACHER SAY: Now that we have had time to observe the materials, we can make a plan. Let's start by individually listing our ideas. Then, we can combine those ideas to illustrate a plan for our flood barrier. Engineers always start their work by creating a plan. The architect we learned about earlier draws blueprints for buildings. These blueprints help outline the building plan. Open your student books to the page My Ideas.



READ ALOUD: List three ideas you have for a flood barrier.

TEACHER SAY: What ideas do you have after observing the materials? Maybe you have an idea about what material to use or about how to put the materials together. Take a moment to think before we begin.

TEACHER DO: Provide **Think Time** for students before allowing them to begin writing.





STUDENTS DO: Write three ideas for the flood barrier design.

6. TEACHER DO: Put students into groups of four to create a flood barrier.

TEACHER SAY: Now, you will begin the next step of the design process with your group. Engineers usually collaborate to solve real-world problems. First, share the individual ideas that you have listed. Using a Talking Stick, take turns sharing what you have written. Listen for ideas that are similar. You can ask your teammates to explain reasoning for their decisions or why an idea might work.



TEACHER DO: As students share in groups, prompt students to explain thinking behind ideas. Ask what materials they think will work best, how they will be put together, and so on. This is an opportunity for students to practice the Life Skill: Respect for Diversity.

 **STUDENTS DO:** Share ideas in groups.

TEACHER SAY: Great job sharing ideas. Who can share a similarity they found with another person in their group? Who heard a new idea they want to try? It is okay if you heard an idea that you like better than your original idea. We learn more by collaborating and listening to other's ideas.

TEACHER DO: Call on student volunteers to share responses.

 **STUDENTS DO:** Reflect on what was learned in group sharing.

TEACHER SAY: Together, your group will draw one plan for the flood barrier. As you sketch your plan, use labels to list what materials you are using, how the flood barrier will be put together, and any other notes that will help you in the building process tomorrow. As you plan, remember that we will be sharing our testing station, so your design has to be able to be disassembled, moved, and reassembled to test.

TEACHER DO: Hand out a sheet of paper to each group. Encourage students within each group to agree on roles for how to complete one sketch with multiple people. Different students might draw, label, and write notes, or one student might be asked to create a sketch that reflects many ideas from the group. As students work, remind them of good practices for collaboration with call-out announcements, such as:

The group may decide to not try your idea and that is okay. Maybe your idea will help solve a problem you encounter as you are creating or when the group redesigns the barrier.
Remember that it does not matter whose individual idea works or is chosen. What matters is that the group understands the choices and works together to implement that choice.

 **STUDENTS DO:** Collaborate to draw a plan of a flood barrier.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we began using the engineering design process to create a flood barrier to protect a home from flood water. Turn and talk to a Shoulder Partner about which steps we completed today and what you think we will do tomorrow.

 **STUDENTS DO:** Review the steps of the engineering design process as applied to the current project.

Lesson 9 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Collaborate to create effective flood barriers. • Test performance of flood barriers.	• Improve • Test	• Student books • Pencils • Materials for building • Flood barrier set-up (from previous day)

LIFE SKILLS		
Learn to Work	Learn to Live Together	Learn to Be
Productivity: • Create a list of tasks to be accomplished, including setting alternative plans.	Sharing: • Effective management and organization of tasks.	Self-Management: • Review progress in realizing goals.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In the previous lesson, we began using the design process to engineer a solution to prevent flood waters from damaging homes in a community. What steps have we taken so far?**

TEACHER DO: Use **Calling Sticks** to have three or four students share the steps engaged in so far.

 STUDENTS DO: Name steps in the engineering design process.

TEACHER SAY: **Today we will use our time to build, test, and refine our flood barrier.**

2. TEACHER DO: Put students back into their groups. Then hand out the plans each group created.

TEACHER SAY: **Your group can manage your own building time today. Before you start assembling materials, agree on the tasks that need to be completed, the order of tasks, and roles on the team.**

 Productivity

 Sharing

 STUDENTS DO: Discuss and agree on project management in groups. (This is an opportunity for students to practice the Life Skills: Productivity and Sharing.)

TEACHER SAY: **Halfway through our work time, we will stop and test our designs so far. After observing what works well and what is not working, you will then have the rest of our time to refine or redesign your flood barrier. This will also give you a chance to see what worked and what did not work for each group to give you new ideas. We can always learn from what others are doing and trying.**

TEACHER DO: Set up the materials in a central location in the room so all groups can access them.

TEACHER SAY: **Before you begin, make sure you discuss which materials you want to start**

with. Think about how you will put the materials together. I will also have the model home and container set up in the front of the room if you need to come observe or check the size of the container. Once your group is ready, you may begin building.

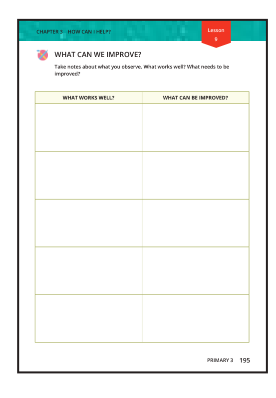


STUDENTS DO: Collaborate to design a flood barrier.

TEACHER DO: Monitor student work, giving periodic reminders of how much time is left before testing will begin. Circulate around the room, asking guiding questions such as:

- Why are you choosing this material?
- Why do you think this will stop the water?
- What do you think would happen if you used/tried/took off ______?

3. TEACHER DO: After giving students half of the class time to build, bring the groups back together for testing. Tell students that they might need to replace some of the materials they used because their models will get wet.



CHAPTER 3 HOW CAN I HELP? Lesson 9

WHAT CAN WE IMPROVE?

Take notes about what you observe. What works well? What needs to be improved?

WHAT WORKS WELL?	WHAT CAN BE IMPROVED?

PRIMARY 3 195

TEACHER SAY: **Here is our testing procedure: Each group will bring up their initial design and explain how it is made, the materials they chose, and why they chose each material. Then, the group will set up the barrier in front of the house. I will pour water in, a little at a time. As a class, we will observe what happens. Think about what is working well about the design and what can be improved. We will record what we observe in our books. Turn to the page What Can We Improve?**



READ ALOUD: **Take notes about what you observe. What works well? What needs to be improved?**

TEACHER SAY: **On one side you will record what works well from each design. On the other side you will record what could be improved. You will use these notes to refine and redesign your flood barrier tomorrow.**

Note to Teacher: Students only need to observe and take notes on three to five other groups' designs. If there are more than five groups testing, split the class into two rounds of testing and encourage the other half of the class to continue working while one half tests.



TEACHER DO: Test each design. Give students time to record observations. This is an opportunity for students to practice the Life Skill: Self-Management.



STUDENTS DO: Record observation notes for each design.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: **Today we created and tested our flood barriers. Tomorrow, we will take what we learned from our tests to refine and redesign our flood barriers. Share a new idea you have with a Shoulder Partner.**



STUDENTS DO: Share new ideas.

Lesson 10 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: • Redesign flood barriers based on test performance. • Explain choices made in redesign. • Communicate learning to the community.	• Redesign	• Student books • Pencils

LIFE SKILLS

Learn to Be

Self-Management:

- Review progress in realizing goals.



Share (90 minutes)

Directions

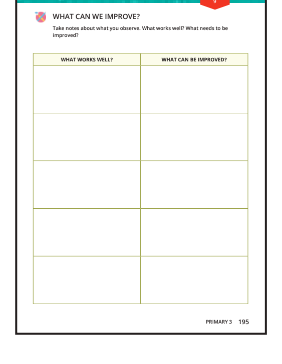
1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: **In the previous lesson, we created and tested our flood barriers. We took notes on what worked and what could be improved for multiple groups' designs. Who can share one new idea you have for an effective flood barrier?**

TEACHER DO: Use Calling Sticks to have students share ideas.



STUDENTS DO: Share new ideas.



CHAPTER 3 HOW CAN I HELP? Lesson 9

WHAT CAN WE IMPROVE?

Take notes about what you observe. What works well? What needs to be improved?

WHAT WORKS WELL?	WHAT CAN BE IMPROVED?

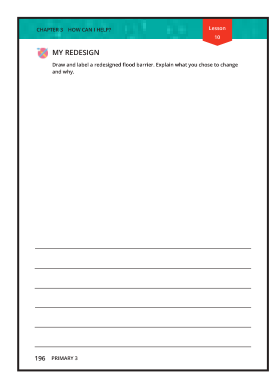
PRIMARY 3 195

2. TEACHER DO: Hand out student books and ask students to assemble into the engineering groups from the previous lesson.

TEACHER SAY: **Today we will be able to take what we learned in our testing to illustrate a plan for an improved flood barrier. Let's start by reviewing our notes from the testing. Turn back to the page What Can We Improve? As you sit in your groups, you will have a chance to share what you observed in our last lesson, since everyone took notes independently. Listen to hear if you noticed the same things or had the same ideas. Listen to hear something new you might not have written down.**



STUDENTS DO: Share observations in a small group.



CHAPTER 3 HOW CAN I HELP? Lesson 10

MY REDESIGN

Draw and label a redesigned flood barrier. Explain what you chose to change and why.

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TEACHER SAY: **Now think about how you can use those ideas to create an improved flood barrier. Engineers rarely ever get a solution right the first time. They test; collect information; and refine, redesign, or improve the solution. That is what we are going to do today. Turn to the next page of your student book, My Redesign.**



READ ALOUD: **Draw and label a redesigned flood barrier. Explain what you chose to change and why.**

Note to Teacher: You may choose to allow students to share ideas with their engineering group, but the illustration should be completed independently. Students may choose to explain in sentences below the drawing, or they may use arrows and indicate both where they made improvements and for what purpose.



STUDENTS DO: Illustrate a redesigned flood barrier using information learned from previous testing.



TEACHER DO: Circulate around the room, asking students to explain redesign choices. Encourage students to use evidence from the tests to support each choice and describe how the improvement will better reach the goal of the project. This is an opportunity for students to practice the Life Skill: Self-Management.

TEACHER SAY: Great job illustrating a redesign. Let's use the strategy Hands Up, Pair Up to share our illustrations.



STUDENTS DO: Share redesign sketched with three or four students.

Note to Teacher: In order to emphasize the process over the final result or success of a design, the final step of this Share Project is the redesign sketch. However, a rebuild step is not included. If time allows in the school year, ask groups to choose one or two improvements, rebuild the new designs, and retest. If some designs still fail in second-round testing, emphasize to students that engineers often go through many rounds of testing and revisions, even beyond the two they have experienced.

TEACHER SAY: Now that we have completed our project, let's take a moment to complete the self-assessment. Remember that the assessment measures your own individual work, apart from whether or not your design functioned properly. Turn to the page My Self-Assessment.



STUDENTS DO: Complete the self-assessment.

3. TEACHER SAY: We have learned a lot this theme. We have studied different habitats we can find around the world and how changes in a habitat can impact living organisms. We studied the water cycle and how it can impact climates in different areas around the world. Finally, we studied the impact of flooding, which can cause changes to an environment and can severely impact a community. We also learned how citizens like you and me, workers, and government officials can make a positive difference in our community. Let's think about how we can use what we learned throughout this theme to help someone in our community.



STUDENTS DO: Share ideas.

TEACHER SAY: To complete our learning about "Taking Care of Our World," we will write a letter to someone in the community about how what we have learned might help them. Let's start by reviewing what you have learned over the past three chapters. Think about how some of your new knowledge could help someone you know in the community, like your parents, other family members, a local business owner, or a government worker. Open your student books to look back through your work this theme.

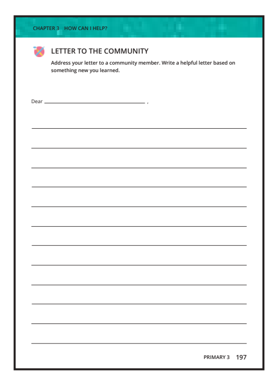


STUDENTS DO: Read through books to look for learning students can communicate to a community member.

TEACHER DO: Provide an appropriate amount of time for students to review previous learnings. As you move around the room, ask students to share with you what they have learned and how that knowledge could help someone in the community.

TEACHER SAY: Turn and talk to a Shoulder Partner about information you could share to help a community member. Maybe someone you know is taking a trip and you can share information about climate. Maybe a local fisherman would need to know about the effects of a flood. Maybe a local business or homeowner would like to know about creating an effective flood barrier.

STUDENTS DO: Share one idea with a partner.


CHAPTER 3 HOW CAN I HELP?

LETTER TO THE COMMUNITY

Address your letter to a community member. Write a helpful letter based on something new you learned.

Dear ______________,

PRIMARY 3 197

TEACHER DO: Use **Calling Sticks** to have several students share with the whole group after all students share with a partner.

TEACHER SAY: Turn to the page Letter to The Community.



READ ALOUD: Address your letter to a community member. Write a helpful letter based on something new you learned.

TEACHER DO: **Model** how to address the letter. If necessary, **Model** orally how you might begin the letter. Then provide time for students to complete a letter to a community member.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We have worked hard throughout the entire theme and I am proud of you. Share your letter with a Shoulder Partner.



STUDENTS DO: Share letters with a partner.

Rubric Assessment (for teacher use)

	Approaching Expectation (1)	Meeting Expectation (2)	Exceeding Expectation (3)
Academic Content	Works with a group to discuss and combine ideas for an effective flood barrier but offers minimal assistance. *Science B.1.g*	Works with a group to discuss and combine ideas for an effective flood barrier. *Science B.1.g*	Works with a group to discuss and combine ideas for an effective flood barrier. Takes on a leadership role and helps organize the group. *Science B.1.g*
	Makes observations about the effectiveness of materials used for a flood barrier with support from peers or the teacher. *Science D.1.a*	Makes observations about the effectiveness of materials used for a flood barrier. *Science D.1.a*	Makes especially insightful observations about the effectiveness of materials used for a flood barrier. *Science D.1.a*
	Explains how floods can be prevented in different regions of the world with support from peers or the teacher. *Social Studies C.2.b*	Explains how floods can be prevented in different regions of the world. *Social Studies C.2.b*	Explains various ways that floods can be prevented in different regions of the world. Shares why a method is effective in a given place. *Social Studies C.2.b*
	Works with a group to discuss the effectiveness of their barrier and how to make improvements to it but offers minimal assistance. *Vocational Fields A.1.b*	Works with a group to discuss the effectiveness of their barrier and how to make improvements to it. *Vocational Fields A.1.b*	Works with a group to discuss the effectiveness of their barrier and how to make improvements to it. Takes on a leadership role and helps organize the group in this work. *Vocational Fields A.1.b*
Quality of Performance	Explains which materials should or should not be used to create an effective barrier with support from peers or the teacher. *Science D.1.b*	Explains which materials should be used to create an effective barrier and identifies materials that are not as helpful. *Science D.1.b*	Explains which materials should be used to create an effective barrier and identifies materials that are not as helpful. Provides exceptional detail or an especially thoughtful explanation. Science D.1.b
	Illustrates, labels, and explains a redesign plan in an unclear way that is not easily understood.	Illustrates, labels, and explains a redesign plan that is clear and easily understood.	Illustrates, labels, and explains a redesign plan that has exceptional detail and/or a unique solution.
Life Skills	Shows little willingness to listen respectfully and accept the ideas of others, especially when they differ from their own. *Respect for Diversity*	Shows a willingness to listen respectfully and accept the ideas of others, especially when they differ from their own. *Respect for Diversity*	Shows an exceptional willingness to listen respectfully and accept the ideas of others, especially when they differ from their own. Serves as a role model for peers in this area. *Respect for Diversity*
	Collects accurate data about the effectiveness of the group's barrier with support from peers or the teacher. *Problem-Solving*	Collects accurate data about the effectiveness of the group's barrier. *Problem-Solving*	Collects accurate data about the effectiveness of the group's barrier. Takes on a leadership role and helps organize the group in this work. *Problem-Solving*

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